
Monetary Policy and Economic Developments

Monetary Policy and the Economic Outlook

The economy of the United States has suffered a series of blows in the past few years, including the fall in equity market values that began in 2000, cutbacks in capital spending in 2001, the horrific terrorist attacks of September 11, the emergence of disturbing evidence of corporate malfeasance, and an escalation of geopolitical risks. Despite these adversities, the nation's economy emerged from its downturn in 2001 to post moderate economic growth last year. The recovery was supported by accommodative monetary and fiscal policies and undergirded by unusually rapid productivity growth that boosted household incomes and held down business costs. The productivity performance was also associated with a rapid expansion of the economy's potential, and economic slack increased over the year despite the growth in aggregate demand.

After turning up in late 2001, activity began to strengthen more noticeably early last year. Sharp inventory cutbacks in 2001 had brought stocks into better alignment with gradually rising final sales, and firms began to increase production in the first quarter of 2002 to curtail further inventory runoffs. Moreover, businesses slowed their contraction of investment spending and began to increase outlays for some types of capital equipment. Household spending on both personal consumption items and

housing remained solid and was supported by another installment of tax reductions, widespread price discounting, and low mortgage interest rates. By midyear, the cutbacks in employment came to an end, and private payrolls started to edge higher.

Although economic performance appeared to be gradually improving, the tentative nature of this improvement warranted the continuation of a highly accommodative stance of monetary policy. Accordingly, the Federal Open Market Committee (FOMC) held the federal funds rate at $1\frac{3}{4}$ percent through the first part of the year. In March, however, the FOMC shifted from an assessment that the risks over the foreseeable future to its goals of maximum sustainable growth and price stability were tilted toward economic weakness to an assessment that the risks were balanced.

Around midyear, the economy began to struggle again. Concerns about corporate governance came to weigh heavily on investors' confidence, and geopolitical tensions, especially the situation in Iraq, elevated uncertainties about the future economic climate. Equity prices fell during the summer, liquidity eroded in corporate debt markets, and risk spreads widened. Businesses once again became hesitant to spend and to hire, and both manufacturing output and private payrolls began to decline. State and local governments struggled to cope with deteriorating fiscal positions, and the economies of some of our major trading partners remained weak. Although the already accommodative stance of monetary policy and strong upward trend of productivity were providing important support

NOTE. The discussion here and in the next section ("Economic and Financial Developments in 2002 and Early 2003") consists of the text, tables, and selected charts from the Monetary Policy Report submitted to the Congress on February 11, 2003, pursuant to section 2B of the Federal Reserve Act.

to spending, the Committee perceived a risk that the near-term weakening could become entrenched. In August, the FOMC adjusted its weighting of risks toward economic weakness, and in November, it reduced the targeted federal funds rate 50 basis points, to 1¼ percent. The policy easing allowed the Committee to return to an assessment that the risks to its goals were balanced. With inflation expectations well contained, this additional monetary stimulus seemed to offer worthwhile insurance against the threat of persistent economic weakness and substantial declines in inflation from already low levels.

On net, the economy remained sluggish at the end of 2002 and early this year. The household sector continued to be a solid source of demand. Motor vehicle sales surged at year-end on the tide of another round of aggressive discounting by the manufacturers, other consumer outlays trended higher, and activity in housing markets remained exceptionally strong. Concerns about corporate governance appeared to recede somewhat late last year, in part because no new revelations of major wrongdoing had emerged. However, the ongoing situation in Iraq, civil strife in Venezuela that has curtailed oil production, and tensions on the Korean peninsula have sustained investors' uncertainty about economic prospects and have pushed prices higher on world oil markets. Faced with this uncertainty, businesses have been cautious in spending and changed payrolls little, on net, over December and January.

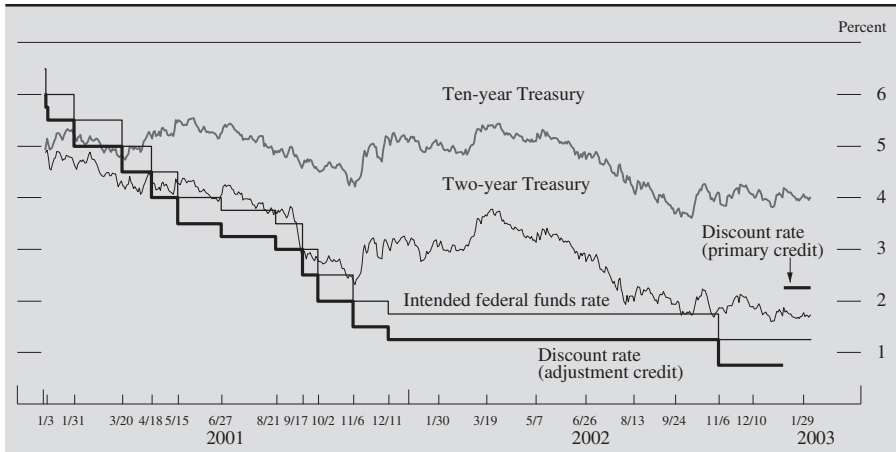
Mindful of the especially high degree of uncertainty attending the economic outlook in the current geopolitical environment, the members of the FOMC believe the most likely outcome to be that fundamentals will support a strengthening of economic growth.

Business caution is anticipated to give way over the course of the year to clearer signs of improving sales. Inventories are lean relative to sales at present, and restocking is likely to provide an additional impetus to production in the period ahead. The rapid expansion of productivity, the waning effects of earlier declines in household wealth, and the highly accommodative stance of monetary policy should also continue to boost activity. Although state and local governments face budgetary problems, their restraint is likely to offset only a part of the stimulus from past and prospective fiscal policy actions at the federal level. In addition, the strengthening economies of our major trading partners along with the improving competitiveness of U.S. products ought to support demand for our exports. Taken together, these factors are expected to lead to a faster pace of economic expansion, while inflation pressures are anticipated to remain well contained.

Monetary Policy, Financial Markets, and the Economy over 2002 and Early 2003

As economic growth picked up during the early months of 2002, the FOMC maintained its target for the federal funds rate at 1¼ percent. A sharply reduced pace of inventory liquidation accounted for a significant portion of the step-up in real GDP growth, but other indicators also suggested that the economy was gaining momentum. Reductions in business outlays on equipment and software had moderated significantly after dropping precipitously in 2001, and consumer spending was well maintained by sizable gains in real disposable personal income. Residential construction activity was spurred by low home mortgage interest rates. The improvement in economic conditions

Selected Interest Rates



NOTE. The data are daily and extend through February 5, 2003. The dates on the horizontal axis are those of scheduled FOMC meetings and of any intermeeting policy actions. On January 9, 2003, the

Federal Reserve changed the main credit program offered at the discount window by terminating the adjustment credit program and beginning the primary credit program.

sparked a rally in equity markets late in the first quarter and pushed up yields on longer-term Treasury instruments and investment-grade corporate bonds; yields on speculative-grade bonds declined in reaction to brighter economic prospects and the perceived reduction in credit risk. Meanwhile, surging energy prices exerted upward pressure on overall inflation, but still-appreciable slack in resource utilization and a strong upward trend in private-sector productivity were holding down core price inflation.

At both its March and May meetings, the FOMC noted that the apparent vigor of the economy was importantly attributable to a slowdown in the pace of inventory liquidation and that considerable uncertainty surrounded the outlook for final sales over the next several quarters. The Committee was especially concerned about prospects for a rebound in business fixed investment, which it viewed as key to ensuring sustainable economic expansion.

Although the decline in investment spending during the first quarter of 2002 was the smallest in a year, gloomy business sentiment and large margins of excess capacity in numerous industries were likely to hamper capital expenditures. According to anecdotal reports, many firms were unwilling to expand capacity until they saw more conclusive evidence of growing sales and profits. At the same time, however, the FOMC noted that, with the federal funds rate unusually low on an inflation-adjusted basis and considerable fiscal stimulus in train, macroeconomic policies would provide strong support to further economic expansion. Against this backdrop, the Committee at the March 19 meeting judged the accommodative stance of monetary policy to be appropriate and announced that it considered the risks to achieving its long-run objectives as being balanced over the foreseeable future, judgments it retained at its meeting in early May.

The information reviewed at the June 25–26 FOMC meeting confirmed that the economy was expanding but at a slower pace than earlier in the year. As expected, the degree of impetus to economic activity from decelerating inventory liquidation had moderated. Residential investment and consumer spending also had slowed appreciably after surging earlier in the year. The most recent data on orders and shipments suggested a small upturn in business spending on equipment and software, but the improvement in capital spending appeared to be limited, unevenly distributed across industries, and not yet firmly indicative of sustained advance. Industrial production continued to increase, and the unemployment rate declined somewhat.

In financial markets, investors and lenders had apparently become more risk averse in reaction to the mixed tone of economic data releases, growing geopolitical tensions, further warnings about terrorist attacks, and additional revelations of dubious corporate accounting practices. In concert, these developments pushed down yields on longer-term Treasury securities, while interest rates on lower-quality corporate bonds rose notably, and equity prices dropped sharply. Although the economy continued to expand and the prospects for accelerating aggregate demand remained favorable, downbeat business sentiment and skittish financial markets rendered the timing and extent of the expected strengthening of the expansion subject to considerable uncertainty. In these circumstances, the FOMC left the federal funds rate unchanged to keep monetary policy very accommodative and once again assessed the risks to the outlook as being balanced.

By the time of the August 13 FOMC meeting, it had become apparent that economic activity had lost some of its

earlier momentum. Turbulence in financial markets appeared to be holding back the pace of the economic expansion. Market participants focused their attention on the lack of convincing evidence that the recovery was gaining traction and the possibility that more news of corporate misdeeds would surface in the run-up to the Securities and Exchange Commission's August 14 deadline for the certification of financial statements by corporate executives. Although the cumulative losses in financial wealth since 2000 were restraining expenditures by households, very low mortgage interest rates were helping to sustain robust demand for housing. Moreover, the financial resources made available by a rapid pace of mortgage refinancing activity, in combination with attractive incentives offered by auto manufacturers, supported other consumer spending. The Committee continued to judge the prevailing degree of monetary accommodation as appropriate to foster a solid expansion that would bring the economy to fuller resource utilization. At the same time, the Committee recognized the considerable risks to that outlook and the potential adverse consequences for economic prospects from possible additional deterioration of financial conditions. The members noted, however, that a further easing of monetary policy, if it came to be viewed as appropriate, could be accomplished in a timely manner. In light of these considerations, the FOMC opted to retain a target rate of 1¾ percent for the federal funds rate, but it viewed the risks to the economy as having shifted from balanced to being tilted toward economic weakness.

When the FOMC met on September 24, data indicated that economic growth had picked up in the third quarter, on average, buoyed in part by a surge in motor vehicle production. The uneventful passing of the mid-August

deadline for recertification of corporate financial statements briefly alleviated investors' skittishness in debt and equity markets. However, the most timely information suggested that some softening in economic activity had occurred late in the summer. Those economic reports, along with a darker outlook for corporate profits and escalating fears of a possible war against Iraq, led market participants to revise down their expectations for the economy. Equity prices and yields on both longer-term Treasury and private securities moved sharply lower in early autumn. In the Committee's view, heightened geopolitical tensions constituted a significant additional source of uncertainty clouding the economic outlook. Still, fundamentals suggested reasonable prospects for continued expansion. Accordingly, the FOMC left the federal funds rate unchanged at the close of the September meeting but also reiterated its view that the risks to the outlook were weighted toward economic weakness.

The information reviewed at the November 6 meeting indicated a more persistent spell of below-par economic performance than the FOMC had anticipated earlier. With home mortgage rates at very low levels, residential construction activity remained high. But consumer spending had decelerated noticeably since midsummer under the combined weight of stagnant employment and declining household wealth resulting from further decreases in equity prices. Worries about the potential for war against Iraq, as well as persistent concerns about the course of economic activity and corporate earnings, were apparently engendering a high degree of risk aversion among business executives that was constraining capital spending and hiring. Despite a weakening in the exchange value of the dollar, sluggish economic growth among

major trading partners spelled difficulties for U.S. exports, and a rebound in foreign output seemed more likely to follow than to lead a rebound at home. Moreover, economic slack that was larger and more persistent than previously anticipated ran the risk of reducing core inflation appreciably further from already low levels. Given these considerations, the Committee lowered its target for the federal funds rate $\frac{1}{2}$ percentage point, to $1\frac{1}{4}$ percent. The relatively aggressive adjustment in the stance of monetary policy was deemed to offset the potential for greater economic weakness, and the Committee accordingly announced that it judged risks to the outlook as balanced with respect to its long-run goals of price stability and sustainable economic growth.

When the FOMC met on December 10, overall conditions in financial markets had calmed considerably. Indicators of production and spending, however, remained mixed. The manufacturing sector registered large job losses in the autumn, and industrial production continued its slide, which had begun around midyear. A more vigorous rebound in business fixed investment was not evident, and indeed the recent data on orders and shipments and anecdotal reports from business contacts generally signaled continued softness in capital spending. Very low home mortgage interest rates were supporting residential construction activity, but consumption expenditures were sluggish. On balance, the Committee's view was that in the absence of major shocks to consumer and business confidence, a gradual strengthening of the economic expansion was likely over the coming quarters, especially given the very accommodative stance of monetary policy and probable further fiscal stimulus. The FOMC left the federal funds rate

unchanged and indicated that it continued to view the risks to the outlook as balanced over the foreseeable future.

By the time of the FOMC meeting on January 28–29, 2003, it had become apparent that the economy had grown only slowly in the fourth quarter of last year, but little evidence of cumulating weakness appeared in the most recent data, and final demand had held up reasonably well. The escalation of global tensions weighed heavily on business and investor sentiment. Firms apparently were remaining very cautious in their hiring and capital spending, and equity prices had declined on balance since the December meeting. But yield spreads on corporate debt—especially for riskier credits—narrowed further, and longer-term Treasury yields declined slightly. Although the fundamentals still pointed to favorable prospects for economic growth beyond the near term, geopolitical developments were making it especially difficult to gauge the underlying strength of the economy, and uncertainties about the economic outlook remained substantial. Against this background, the Committee decided to leave the federal funds rate unchanged and stated that it continued to judge the risks to the outlook as balanced.

Economic Projections for 2003

An unusual degree of uncertainty attends the economic outlook at present, in large measure, but not exclusively, because of potential geopolitical developments. But Federal Reserve policymakers believe the most probable outcome for this year to be a pickup in the pace of economic expansion. The central tendency of the real GDP forecasts made by the members of the Board of Governors and the Federal Reserve Bank presidents is $3\frac{1}{4}$ percent to

$3\frac{1}{2}$ percent, measured as the change between the final quarter of 2002 and the final quarter of this year. The full range of these forecasts is 3 percent to $3\frac{3}{4}$ percent. Of course, neither the central tendency nor the range is intended to convey the uncertainties surrounding the individual forecasts of the members. The civilian unemployment rate is expected to end the year in the $5\frac{3}{4}$ percent to 6 percent range.

Apart from the geopolitical and other uncertainties, the forces affecting demand this year appear, on balance, conducive to a strengthening of the economic expansion. Monetary policy remains highly accommodative, and federal fiscal policy is and likely will be stimulative. However, spending by many state and local governments will continue to be restrained by considerable budget difficulties. Activity abroad is expected to improve this year, even if at a less robust pace than in the United States; such growth together with the improving competitiveness of U.S. products should generate stronger demand for our exports. Furthermore, robust gains in productivity, though unlikely to be as large as in 2002, ought to continue to promote both household and business spending. Household purchasing power should be supported as well by a retreat in the price of imported energy products that is suggested by the oil futures market. And the adverse effects on household spending from past declines in equity wealth probably will begin to wane.

A reduction of businesses' hesitancy to expand investment and hiring is critical to the durability of the expansion, and such a reduction should occur gradually if geopolitical risks ease and profitability improves. Inventories are relatively lean, and some restocking ought to help boost production this year, albeit to a much smaller extent than did

Economic Projections for 2003

Percent

Indicator	MEMO: 2002 actual	Federal Reserve Governors and Reserve Bank presidents	
		Range	Central tendency
<i>Change, fourth quarter to fourth quarter¹</i>			
Nominal GDP	4.1	4½–5½	4¾–5
Real GDP	2.8	3–3¾	3¼–3½
PCE chain-type price index	1.9	1¼–1¾	1¼–1½
<i>Average level, fourth quarter</i>			
Civilian unemployment rate	5.9	5¾–6	5¾–6

1. Change from average for fourth quarter of previous year to average for fourth quarter of year indicated.

last year's cessation of sharp inventory liquidations. In addition, the continued growth of final sales, the tax law provision for partial expensing of equipment purchases, replacement demand, and a more hospitable financial environment should induce many firms to increase their capital spending. The growth of investment likely will be tempered, however, by the persistence of excess capital in some areas, notably the telecommunications sector, and reductions in business spending on many types of new structures may continue this year.

Federal Reserve policymakers believe that consumer prices will increase less this year than in 2002, especially if energy prices partly reverse last year's sharp rise. In addition, resource utilization likely will remain sufficiently slack to exert further downward pressure on underlying inflation. The central tendency of FOMC members' projections for increases in the chain-type price index for personal consumption expenditures (PCE) is 1¼ percent to 1½ percent this year, lower than the actual increase of about 2 percent in 2002. ■

Economic and Financial Developments in 2002 and Early 2003

In 2002, the United States economy extended the upturn in activity that began in late 2001. Real GDP increased $2\frac{3}{4}$ percent over the four quarters of last year, according to the advance estimate from the Commerce Department. However, the pace of activity was uneven over the course of the year, as concerns about emerging economic and political developments at times weighed heavily on an economy already adjusting to a succession of shocks from previous years.

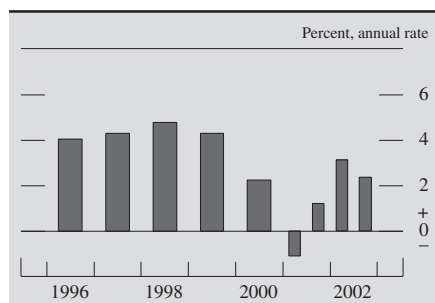
Economic conditions improved through the first part of the year. Household spending on both personal consumption items and housing remained solid, businesses curtailed their inventory liquidation and began to increase their outlays for some types of capital equipment, and private employment started to edge higher. But the forward momentum diminished noticeably later in the year when concerns about corporate governance put a damper on finan-

cial markets and geopolitical developments boosted oil prices and added to the uncertainty already faced by businesses about the economic outlook. In the summer, equity prices fell, risk spreads widened, and liquidity eroded in corporate debt markets. Businesses' caution was reflected in their reluctance to substantially boost investment, restock inventories, or add to payrolls. Responding to these developments, as well as some weakening in demand from abroad, manufacturers trimmed production during the fall. Employment at private businesses declined again, and the unemployment rate rose to 6 percent in December. However, despite the modest pace of last year's overall recovery, output per hour in the nonfarm business sector grew $3\frac{3}{4}$ percent over the year—an extraordinary increase even by the standards of the past half decade or so.

Signals on the trajectory of the economy as we enter 2003 remain mixed. Some of the factors that had noticeably restrained the growth of real GDP in the fourth quarter of last year—most especially a sharp decline in motor vehicle production—are not on track to be repeated. Moreover, employment leveled off on average in December and January, and readings on industrial production have had a somewhat firmer tone of late. Nevertheless, the few data in hand suggest that the economy has not yet broken out of the pattern of subpar performance experienced over the past year.

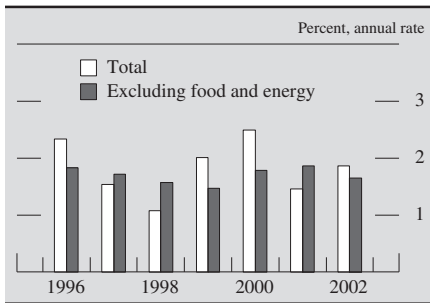
Consumer price inflation moved up a bit last year, reflecting sharply higher

Change in Real GDP



NOTE. Here and in subsequent charts, except as noted, annual changes are measured from Q4 to Q4, and change for a half-year is measured between its final quarter and the final quarter of the preceding period.

Change in PCE Chain-Type Price Index



NOTE: The data are for personal consumption expenditures (PCE).

energy prices. Excluding the prices of food and energy items, the price index for personal consumption expenditures increased $1\frac{3}{4}$ percent, about $\frac{1}{4}$ percentage point less than in 2001; this deceleration most likely resulted from continued slack in labor and product markets, robust gains in productivity, and somewhat lower expectations of future inflation.

The Household Sector

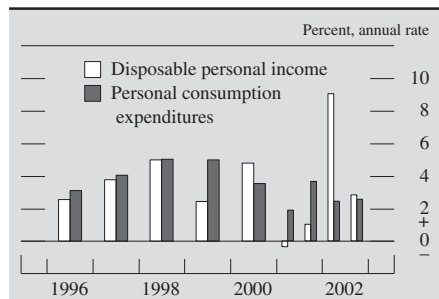
Consumer Spending

Consumer spending grew at a moderate pace last year and, on the whole, continued to be an important source of support for overall demand. Personal consumption expenditures rose $2\frac{1}{2}$ percent in real terms, near the $2\frac{3}{4}$ percent increase in 2001 and down from the more than 4 percent average growth over the preceding several years. Sales of new motor vehicles fell only a little from the extremely high levels of late 2001; outlays were especially strong during the summer and late in the year, when manufacturers were offering aggressive price and financing incentives. Growth of spending on other durable goods was well maintained last year as well, although the gains were smaller than is

often seen early in an economic recovery; in contrast to the situation in many previous cycles, spending on durable goods did not decline sharply during the recession and so had less cause to rebound as the recovery got under way. Apart from outlays on durable goods, spending for most categories of consumer goods and services increased at a moderate rate last year.

That moderate rate of aggregate consumption growth was the product of various crosscurrents. On the positive side, real disposable personal income rose nearly 6 percent last year, the fastest increase in many years. Strong productivity growth partially offset the effects of stagnant employment in restricting the growth of household income, and the phase-in of additional tax reductions from the Economic Growth and Tax Relief Reconciliation Act of 2001 boosted household purchasing power appreciably. In addition, high levels of mortgage refinancing allowed homeowners to reduce their monthly payments, pay down more costly consumer credit, and, in many cases, extract equity that could be used to support other spending. On the negative side, household wealth again moved lower last year, as continued reductions in equity values outweighed further appreciation of house prices. By the end of

Change in Real Income and Consumption



the third quarter, according to the Federal Reserve's flow-of-funds accounts, the ratio of household net worth to disposable income had reversed nearly all of its run-up since the mid-1990s.

Consumer confidence, which had declined during most of 2001 and especially after the September 11 attacks, picked up in the first half of last year, according to both the Michigan Survey Research Center (SRC) and Conference Board surveys. However, confidence retreated over the summer along with the drop in equity prices, and by early this year, consumer confidence again stood close to the levels of late 2001. These levels of consumer confidence, though at the bottom of readings of the past several years, are nevertheless above levels normally associated with recession.

The personal saving rate, which has trended notably lower since the early 1980s, moved above 4 percent by late last year after having averaged $2\frac{1}{4}$ percent in 2001. The saving rate has been buffeted during the past two years by surges in income induced by tax cuts and by spikes in spending associated with variations in motor vehicle incentives. But, on balance, the extent of the increase in the saving rate has been roughly consistent with a gradual response of consumption to the reduction in the ratio of household wealth to disposable income.

Residential Investment

Real expenditures on residential investment increased 6 percent in 2002—the largest gain in several years. Demand for housing was influenced by the same factors affecting household spending more generally, but it was especially supported by low interest rates on mortgages. Rates on thirty-year fixed-rate mortgages, which stood at around 7 per-

cent in the first months of the year, fell to around 6 percent by the autumn and dipped below that level early this year—the lowest in thirty-five years. Not surprisingly, attitudes toward homebuying, as measured by the Michigan SRC, remained quite favorable.

Starts of new single-family homes were at 1.36 million units last year, 7 percent above the already solid pace for 2001. Sales of both new and existing homes were brisk as well. Home prices continued to rise but at a slower rate than in 2001, at least according to some measures. The repeat-sales price index for existing homes rose $5\frac{1}{2}$ percent over the four quarters ended in 2002:Q3, a slowing from the $8\frac{3}{4}$ percent increase over the comparable year-earlier period. The constant-quality price index for new homes rose $4\frac{1}{2}$ percent last year, but this increase was close to the average pace over the past few years. At the same time, measures of house prices that do not control for the mix of homes sold rose considerably more last year than in 2001, a difference indicating that a larger share of transactions were in relatively expensive homes.

In the multifamily sector, starts averaged a solid 345,000 units last year, an amount in line with that of the preceding several years. However, the pace of building slowed a little in the fall. Apartment vacancy rates moved notably higher last year and rent and property values declined; these changes suggest that the strong demand for single-family homes may be eroding demand for apartment space.

Household Finance

Households continued to borrow at a rapid pace last year; the $9\frac{1}{4}$ percent increase in their debt outstanding was the largest since 1989. Low mortgage interest rates helped spur both very

strong home purchases and refinancing of existing loans, which together increased home mortgage debt 11½ percent. Refinancing activity was especially elevated in the fourth quarter, when fixed mortgage interest rates dipped to around 6 percent. Torrid refinancing activity helps explain last year's slowdown of consumer credit, which is household borrowing not secured by real estate: A significant number of households reportedly extracted some of the equity from their homes at the time of refinancing and used the proceeds to repay other debt as well as to finance home improvements and other expenditures. According to banks that participated in the Federal Reserve's Senior Loan Officer Opinion Survey on Bank Lending Practices in October, the frequency and size of cash-out refinancings were substantially greater than had been reported in the January 2002 survey. Although automakers' financing incentives and attractive cash rebates stimulated a substantial amount of consumer borrowing, the growth rate of consumer credit in 2002, at 4¼ percent, was more than 2½ percentage points below the pace in 2001.

Even though households took on a large amount of mortgage debt last year, extraordinarily low mortgage rates kept the servicing requirement for that debt (measured as a share of homeowners' disposable income) well below its previous peak levels. Moreover, reflecting large gains in residential real estate values, equity in homes has continued to increase despite sizable debt-financed extractions. The combined influence of low interest rates and the sizable gain in disposable personal income also kept the total servicing costs faced by households—which in addition to home mortgage payments include costs of other financial obligations such as rental payments of tenants, consumer install-

ment credit, and auto leases—relative to their incomes below previous peaks. Against this backdrop, broad measures of household credit quality deteriorated very little last year, and signs of financial stress were confined mainly to the subprime segment of the market. Delinquency rates on home mortgages inched up, while those on auto loans at finance companies were flat. Delinquency rates on credit cards bundled into securitized asset pools remained close to those of recent experience.

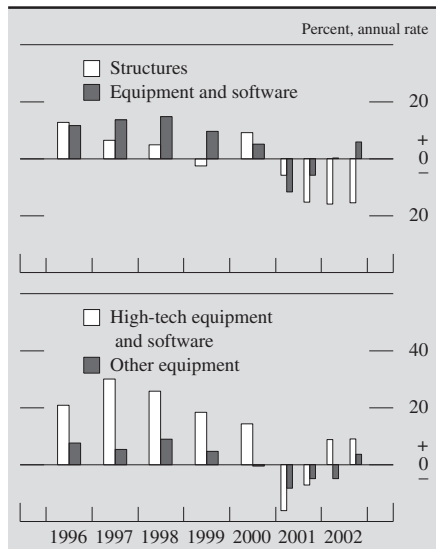
The Business Sector

Overall business fixed investment moved lower last year, although the decline was not nearly so precipitous as in 2001. Outlays for equipment and software edged up, but spending on structures fell sharply. Financing conditions worsened over the summer, with equity prices declining, initial public offerings (IPOs) drying up, credit market spreads widening, and banks tightening up somewhat on credit standards in the wake of increased reports of corporate malfeasance. In addition, geopolitical concerns increased firms' already heightened uncertainty about the economic outlook. These factors contributed to an apparent deterioration in business confidence, and businesses still have not felt any great urgency to boost investment appreciably. For similar reasons, although firms slowed their rate of inventory liquidation last year, they have yet to undertake a sustained restocking.

Fixed Investment

After dropping sharply in 2001, real spending on equipment and software rose 3 percent last year. Spending on high-technology equipment, one of the hardest-hit sectors in 2001, showed signs of uneven improvement. The

Change in Real Business Fixed Investment



NOTE. High-tech equipment consists of computers and peripheral equipment and communications equipment.

clearest rebound was in computing equipment, for which spending rose 25 percent in real terms; this gain fell short of the increases posted in the late 1990s but far more than reversed the previous year's decline. Software investment also turned positive, rising 6 percent after declining about 3 percent in 2001. By contrast, real outlays for communications equipment were reported to be up only slightly in 2002 after plummeting 30 percent in 2001.

Business spending on aircraft fell sharply last year. Airlines were hit especially hard by the economic downturn and by the reduction in air travel after the September 11 attacks; although expenditures for new aircraft held up through the end of 2001 because of the very long lags involved in producing planes, shipments of planes slowed greatly thereafter. Meanwhile, business outlays on motor vehicles edged up last year. Demand for autos and light trucks

by rental companies weakened sharply along with the drop in air traffic that occurred after September 11 but recovered gradually over the course of last year. Purchases of medium and heavy trucks fell off overall, despite the fact that demand for heavy (class 8) trucks was boosted by spending in advance of the implementation of more-stringent environmental regulations.

Investment in equipment other than high-tech and transportation goods moved modestly higher through most of last year, as real outlays for industrial machinery and a wide range of other equipment gradually strengthened through the summer. Although spending edged lower again in the fourth quarter, investment in non-high-tech, nontransportation equipment increased 3½ percent for the year as a whole.

Spending on equipment and software was supported last year by low interest rates, which helped hold down the cost of capital, as did the tax provision enacted in March 2002 that allows partial expensing of new equipment and software purchased before September 11, 2004. Moreover, modest increases in final sales together with replacement demand no doubt spurred many firms to make new capital outlays. Nevertheless, some sectors, most notably telecommunications, probably still had excess holdings of some forms of capital. Concerns about corporate malfeasance, which had become more intense over the spring and summer, weighed heavily on financial markets and raised the cost of capital through reduced share prices and higher yields on the bonds of lower-rated firms. In addition, uncertainty about the geopolitical situation, including the possible consequences for oil prices of an outbreak of war with Iraq, likely made many firms reluctant to commit themselves to new expenditures. In all, busi-

nesses have been, and appear to remain, quite cautious about undertaking new capital spending projects.

Real business spending for nonresidential structures declined sharply for a second year in 2002. Outlays for the construction of office buildings and industrial buildings were especially weak. Vacancy rates for such buildings increased throughout the year, and property values and rents moved lower. Construction of new hotels and motels also fell considerably, reflecting the weakness in the travel industry. By contrast, spending on other commercial buildings, such as those for retail, wholesale, and warehouse space, moved only a little lower last year.

A number of factors likely account for investment in structures having been much weaker than investment in equipment. Structures depreciate very slowly, so businesses can defer new outlays without incurring much additional deterioration of their capital stock. And unlike investment in equipment, spending on structures is not eligible for partial expensing. According to some analysts, concerns about additional acts of terrorism (and, until late in the year, the lack of insurance to cover such events) may also have had a damping effect on some types of construction, particularly large “trophy” projects.

Inventory Investment

The sharp inventory runoffs that characterized the economic downturn, together with gradually rising final sales, implied that, by early last year, stocks were in much better alignment with sales than had been the case during 2001. Accordingly, businesses lessened the pace of inventory liquidation early in the year and by summer had turned to some modest restocking. However, firms appeared to have exerted tight control

over production and inventories; with prospects for the strength of the recovery having diminished in the second half of the year, businesses quickly cut production, and inventories only edged up in the fourth quarter, according to incomplete and preliminary data. In all, total inventories were about unchanged last year compared with a liquidation of more than \$60 billion in 2001, and this turnaround contributed 1 percentage point to the growth of real GDP over the year. At year-end, inventory-to-sales ratios in most sectors stood near the low end of their recent ranges.

In the motor vehicle industry, last year’s very strong sales were matched by high levels of production, and the stock of inventories, especially for light trucks, appeared at times to be higher than the industry’s desired levels. Nevertheless, the surge in sales late in the year helped to pare stocks, and dealers ended the year with inventories of light vehicles at a comfortable level.

Corporate Profits and Business Finance

The profitability of the U.S. nonfinancial corporate sector improved from its lows of 2001 but relative to sector output remained at the low end of the range experienced over the past thirty years. Economic profits of nonfinancial corporations—that is, book profits adjusted for inventory valuations and capital consumption allowances—rebounded in late 2001 and were little changed through the third quarter of last year. The sluggish expansion of aggregate demand and the lack of pricing power associated with intense competitive pressures were the main factors that held down profits in 2002. Also playing a role, especially in the manufacturing sector, were costs arising from underfunded defined-benefit pension plans.

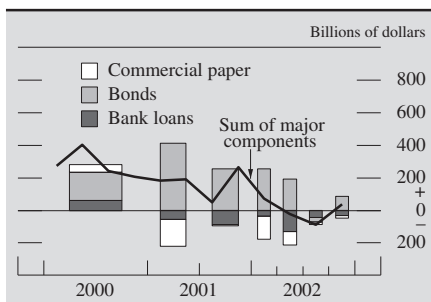
Reflecting the pause in economic growth, earnings reports for the fourth quarter indicate that profits may have dropped some late in the year.

A dearth of expenditures on fixed capital and moribund merger and acquisition activity were the chief culprits behind the sluggish pace of nonfinancial corporate borrowing last year. Also important was the propensity of some firms to draw on liquid assets—which began the year at high levels—rather than to seek external financing. Consequently, debt of the nonfinancial corporate sector expanded only 1½ percent, a rate slower than the already subdued pace in 2001. The composition of business borrowing was dominated last year, as it was in 2001, by longer-term sources of funds. Robust demand for higher-quality corporate debt on the part of investors, combined with the desire of firms to lock in low interest rates, prompted investment-grade corporations to issue a large volume of bonds during the first half of 2002. With funding needs limited, investment-grade issuers continued to use the proceeds to strengthen their balance sheets by refinancing higher-coupon bonds and by paying down short-term obligations

such as bank loans and commercial paper. Buoyed by declining yields, gross issuance of below-investment-grade bonds for the most part also held up well during the first half, although this segment of the market was hit hard after revelations of corporate malfeasance, as investors shunned some of the riskiest issues; issuance was especially weak in the beleaguered telecom and energy sectors, which continue to be saddled with overcapacity and excessive leverage. Despite falling share prices, seasoned equity offerings were also well maintained over the first half of the year, in part because of the decision of some firms—especially in the telecom and energy sectors—to reduce leverage. IPOs, by contrast, were sparse. The evaporation of cash-financed mergers and acquisitions and desire by firms to conserve cash kept equity retirements at their slowest pace since 1994.

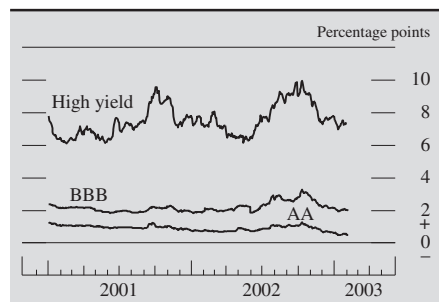
Over the summer, investors grew more reluctant to buy corporate bonds because of concerns about the reliability of financial statements, deteriorating credit quality, and historically low recovery rates on defaulted speculative-grade debt. Macroeconomic data suggesting that the economic recovery was

Major Components of Net Business Financing



NOTE. Seasonally adjusted annual rate for nonfarm nonfinancial corporate business. The data for the sum of major components are quarterly. The data for 2002:Q4 are estimated.

Spreads of Corporate Bond Yields over the Ten-Year Treasury Yield



NOTE. The data are daily and extend through February 5, 2003. The spreads compare the yields on the Merrill Lynch AA, BBB, and 175 indexes with the yield on the ten-year off-the-run Treasury note.

losing momentum and widespread company warnings about near-term profits pushed yields on speculative-grade debt sharply higher. Risk spreads on investment-grade bonds also widened appreciably in the third quarter, as yields in that segment of the corporate bond market declined less than those on Treasury securities of comparable maturity. Investors' aversion to risk was also heightened by mounting tensions with Iraq; by early autumn, risk spreads on junk-rated bonds reached their highest levels in more than a decade. Gross bond issuance both by investment-grade and below-investment-grade firms fell off markedly, and the amount of redemptions was large. By the third quarter, net issuance of bonds by non-financial corporations had turned negative for the first time since the early 1950s. Trading conditions in the corporate bond market deteriorated during this period, as bid-asked spreads reportedly widened in all sectors. With share prices dropping and stock market volatility increasing, issuance of seasoned equity nearly stalled in the summer and early autumn. IPOs were virtually nonexistent amid widely publicized investigations into the IPO allocation process at large investment banks.

A smattering of more upbeat news about the economy in mid-autumn and the absence of major revelations of corporate wrongdoing sparked a rally in equity prices and rekindled investors' appetite for corporate debt. Over the remainder of the year and during early 2003, risk spreads narrowed considerably on investment-grade corporate bonds—especially for the lowest rated of these issues—and even more on speculative-grade bonds, although they remained high by historical standards. In the meantime, liquidity in the corporate bond market generally improved. A brightening of investor sentiment

caused a rebound in gross bond issuance, with firms continuing to use bond proceeds to refinance long-term debt and to pay down short-term debt. Rising stock prices and reduced volatility also allowed seasoned equity issuance to regain some ground in the fourth quarter. The improved tone in corporate debt markets carried over into early 2003. Gross corporate bond issuance continued at a moderate pace, and despite the drop in stock prices in the latter half of January, seasoned equity issuance has been reasonably well maintained. IPO activity and venture capital financing, however, remained depressed.

The heavy pace of bond issuance, sagging capital expenditures, and diminished merger and acquisition activity allowed firms to pay down large amounts of both business loans at banks and commercial paper last year. The runoff in business loans that started in early 2001 intensified in the first half of 2002. At the same time, commercial paper issuers that were perceived as having questionable accounting practices encountered significant investor resistance, and most of these issuers discontinued their programs. Bond rating agencies stepped up the pressure on firms to substitute longer-term debt for shorter-term debt and thereby reduce rollover risk. In addition, banks raised the total cost of issuing commercial paper by tightening underwriting standards and boosting fees and spreads on the associated backup lines of credit—especially for lower-rated issuers. In doing so, respondents to the April Senior Loan Officer Opinion Survey on Bank Lending Practices cited heightened concerns about the deterioration of issuers' credit quality and a higher probability of lines being drawn. Many commercial paper issuers either turned to longer-term financing or dropped out of the credit markets altogether, and the volume

of nonfinancial commercial paper outstanding shrank about one-fourth during the first six months of the year after having dropped one-third in 2001.

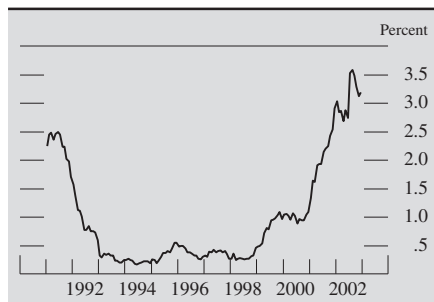
The volatility that gripped equity and bond markets around midyear, however, did not spill over to the commercial paper market. Quality spreads in the commercial paper market were largely unaffected, in part because many of the riskiest issuers had already exited the market, while others had strengthened their cash positions and significantly reduced rollover risk earlier in the year. Indeed, because of difficulties in the corporate bond market, some nonfinancial firms turned temporarily to the commercial paper market to obtain financing, and the volume of outstanding paper rose in July after a lengthy period of declines. Over the remainder of the year, business loans at banks and commercial paper outstanding contracted rapidly, as inventory investment remained negligible, and firms continued to take advantage of relatively low longer-term interest rates by issuing bonds.

A decline in market interest rates and improved profitability helped reduce the ratio of net interest payments to cash

flow in the nonfinancial corporate sector last year. Even so, many firms struggled to service their debt, and corporate credit quality deteriorated markedly. The trailing average default rate on corporate bonds, looking back over the preceding twelve months, was already elevated and climbing when WorldCom's \$26 billion default in July propelled the average rate to a record level. The amount of nonfinancial corporate debt downgraded by Moody's Investors Service last year was more than fourteen times the amount upgraded. At less than 25 percent, the average recovery rate in 2002 on all defaulted bonds—as measured by the price of bonds at default—was at the low end of recovery rates over the past decade. Delinquency rates on business loans at commercial banks rose noticeably before stabilizing in the second half of the year, and charge-off rates remained quite high throughout 2002.

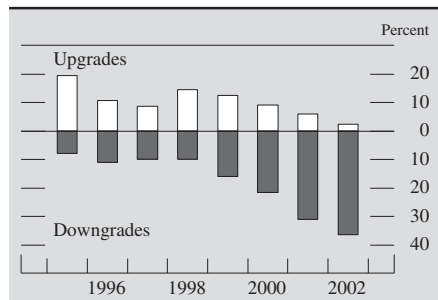
After expanding rapidly in 2001, commercial mortgage debt grew much more slowly during the first quarter of last year, as business spending on non-residential structures fell. Despite the continued contraction in outlays on non-residential structures, commercial mort-

Default Rate on Outstanding Bonds



NOTE. The default rate is monthly and extends through December 2002. The rate for a given month is the face value of bonds that defaulted in the twelve months ending in that month divided by the face value of all bonds outstanding at the end of the calendar quarter immediately preceding the twelve-month period.

Ratings Changes of Nonfinancial Corporations



NOTE. Data are at an annual rate. Debt upgrades (downgrades) are expressed as a percentage of par value of all bonds outstanding.

SOURCE. Moody's Investors Service.

gage debt accelerated over the remainder of the year, apparently because of refinancing to extract a significant portion of equity from existing properties. The issuance of commercial-mortgage-backed securities (CMBS), a key source of commercial real estate financing in recent years, was well maintained in 2002. Even as office vacancy rates rose, the quality of commercial real estate credit remained stable last year. Commercial banks firmed standards on commercial real estate loans in 2002, on net, and delinquency rates on commercial real estate loans at banks stayed at historically low levels. Delinquency rates on CMBS leveled off after increasing appreciably in late 2001, and forward-looking indicators also do not suggest elevated concerns about prospective defaults: Yield spreads on CMBS over swap rates remained in the fairly narrow range that has prevailed over the past several years.

The Government Sector

Federal Government

Despite modest economic growth, the federal budget position deteriorated sharply in 2002. After running a unified budget surplus of \$127 billion in fiscal 2001, the federal government posted a deficit of \$158 billion in fiscal 2002—and that deficit would have been \$23 billion larger if not for the shifting of some corporate tax payments from fiscal 2001 to fiscal 2002. After adjustment for that tax shifting, receipts declined 9 percent in fiscal 2002: A \$50 billion drop in corporate payments stemmed largely from tax provisions enacted in the 2002 stimulus bill (especially the partial-expensing provision on investment), and a decline in individual tax payments of \$136 billion was largely attributable to a drop in capital gains

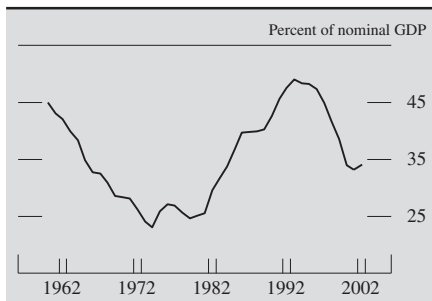
realizations and to lower tax rates that were enacted in the 2001 tax bill.

Meanwhile, federal outlays increased nearly 8 percent in fiscal 2002 and 11 percent excluding a decline in net interest expenses. Spending increased notably in many categories, including defense, homeland security, Medicaid, and income security (which includes the temporary extended unemployment compensation program). Federal government consumption and investment—the part of spending that is counted in GDP—rose more than 7 percent in real terms in 2002. (Government spending on items such as interest payments and transfers are not counted in GDP because they do not constitute a direct purchase of final production.)

The turn to deficit in the unified budget means that the federal government, which had been contributing to national saving since 1997, began to reduce national saving last year. The reversal more than offset an increase in saving by households and businesses, and gross national saving declined to 15 percent of GDP by the third quarter of last year—the lowest national saving rate since the 1940s.

After it reentered the credit markets as a significant borrower of net new funds in the second half of 2001, the Treasury continued to tap markets in volume last year. Federal net borrowing was especially brisk over the first half of the year. With federal debt rapidly approaching its statutory borrowing limit, the Secretary of the Treasury declared a debt ceiling emergency on May 16 and identified about \$80 billion worth of accounting measures that could be used to create financing room within the existing \$5.95 trillion limit. The Secretary's announcement and subsequent employment of one of these devices—in which Treasury securities held in government trust funds were temporarily

Federal Government Debt Held by the Public



NOTE. Through 2001, the data for debt are year-end figures and the corresponding value for GDP is for Q4 at an annual rate; the final observation is for 2002:Q3. Excludes securities held as investments of federal government accounts.

replaced by Treasury IOUs not subject to the debt ceiling—had little effect on Treasury yields, as market participants were apparently confident that the ceiling would be raised in time to avoid default. And indeed, the Congress approved legislation raising the statutory borrowing limit to \$6.4 trillion on June 27. With its credit needs remaining substantial, the Treasury continued to borrow heavily over the second half of 2002. The increase in the Treasury's net borrowing last year caused the ratio of publicly held debt to nominal GDP to rise for the first time since 1993.

State and Local Governments

State and local governments have continued to struggle in response to sluggish growth of receipts. In the current fiscal year (which ends June 30 for most states), most state governments are reported to be facing significant shortfalls. Although a variety of strategies may be available for the purpose of technically complying with balanced-budget requirements, including tapping nearly \$20 billion in combined rainy-day and general fund balances and turn-

ing to the capital markets, many states will be forced to boost revenues and hold the line on spending.

Real expenditures for consumption and gross investment by state and local governments rose less than 2 percent in 2002—the smallest increase in ten years. The slowdown in spending growth was widespread across expenditure categories and included notably smaller increases in outlays for construction. Employment in the state and local sector continued to rise in 2002, but at a slower rate than in recent years.

Debt of the state and local government sector expanded last year at the fastest pace since 1987. Governments used the proceeds to finance capital spending and to refund existing debt in advance. Net issuance of short-term municipal bonds was also well maintained, as California and some other states facing fiscal difficulties turned to shorter-term borrowing while fashioning more permanent solutions to their budget problems. Worsening budget situations contributed to some deterioration in municipal credit quality last year. Credit-rating downgrades outpaced upgrades by a significant margin, and the yield spread of BBB-rated over insured AAA-rated municipal bonds rose significantly over the second half of 2002.

The External Sector

The U.S. current account deficit widened again in 2002 after a brief respite during the cyclical slowdown in 2001. Two-thirds of the expansion of the deficit last year was attributable to a decline in the balance on goods and services, although net investment income also fell sharply as receipts from abroad declined more than payments to foreign investors in the United States. The broad exchange value of the dollar peaked

around February 2002 after appreciating about 13 percent in real terms from January 2000; in early February 2003 it was down about 5 percent from the February 2002 level.

Trade and the Current Account

Both exports and imports rebounded in 2002 as the cyclical downturn of the previous year was reversed and spending on travel recovered from the post-September 11 slump. As is often the case, the amplitude of the recent cycle in trade has been greater than that of real GDP. In 2001, stagnant real GDP in the United States and abroad was coupled with declines of 11½ percent in real exports and 8 percent in real imports. Last year, moderate growth of both foreign and domestic real GDP was exceeded by gains of 5 percent and 9 percent, respectively, in our real exports and imports. The faster growth of imports relative to exports over the past two years was consistent with the historical pattern in which the responsiveness of imports to income is greater in the United States than in the rest of the world. Although the dollar depreciated on balance last year, the lagged effects of its prior appreciation over the two previous years contributed to the faster growth in imports relative to exports in 2002.

Real exports of goods posted a strong gain in the second quarter of 2002 after six consecutive quarters of decline. However, as output growth slowed abroad, exports decelerated in the third quarter and then fell in the fourth quarter. On balance, exports of goods rose about 2 percent over the course of the year, reversing only a small portion of the previous year's decline. Not surprisingly, the increase in goods exports in 2002 was concentrated in the destinations where GDP growth was

strongest—Canada, Mexico, and several developing Asian economies. A gain of 12 percent in real exports of services in 2002 more than reversed the previous year's decline and reflected both a pickup in tourism and an increase in other private services. Export prices turned up in the second quarter after a year of decline and continued to rise at a moderate pace in the second half.

The very rapid growth of real imports of goods in the first half of last year was a reaction to the revival of U.S. activity, and they gained about 9 percent over the year. The particularly large gains in imports of consumer goods and automotive products reflected the buoyancy of U.S. consumption expenditures. Imports of most major categories of capital goods also increased on balance over the year. However, as with exports, import growth was considerably stronger in the first half of the year than in the second. This pattern likely reflected the deceleration in U.S. GDP, along with the effects of some depreciation of the dollar. In addition, there may have been some shifting of import demand from later in the year to the earlier months as it began to appear more likely that labor contract negotiations at West Coast ports would not go smoothly.¹ Imports of services more than reversed their 2001 decline over the course of the year, and gains were recorded for both travel and other private services. Prices of non-oil imports turned up in the second quarter after declining over the preceding four quar-

1. The dispute between the Pacific Maritime Association and the International Longshore and Warehouse Union eventually led to an eleven-day port closure in late September and early October that ended when President Bush invoked the Taft-Hartley Act. Although the monthly pattern of trade was influenced by the closure, the overall level of imports for the year does not appear to have been much affected.

ters, as a result of the weaker exchange rate and a turnaround in prices of internationally traded commodities.

The spot price of West Texas intermediate crude oil climbed above \$35 per barrel in early 2003, its highest level since the beginning of 2000. Oil prices had fallen to around \$20 per barrel during 2001 amid general economic weakness, but they began rising in February and March of last year in response to both improving global economic activity as well as a production-limiting agreement between OPEC and several major non-OPEC producers. Even though production in a number of OPEC and non-OPEC countries in fact exceeded the agreed limits last year, heightened tensions in the Middle East along with severe political turmoil in Venezuela continued to put upward pressure on prices. The pressure intensified late in the year as a strike in Venezuela that began on December 2 virtually shut down that country's oil industry, and Venezuelan oil production was still well below pre-strike levels in early 2003. Concern over a possible war with Iraq, along with a very low level of crude oil inventories in the United States, has helped to keep spot prices high. Also in response to the heightened tensions, the price of gold shot up about 30 percent over the past year.

The Financial Account

The increase in the current account deficit in 2002 was about equal on balance to the stepped-up foreign official purchases of U.S. assets, as changes in the components of private capital flows were offsetting. Private foreign purchases of U.S. securities were about \$360 billion at an annual rate through November, a volume similar to last year's total. However, there was some shift in the composition of flows away

from equities and toward Treasury securities. This shift may have reflected the damping of equity demand caused by slower economic growth and continued concern about corporate governance and accounting. Over the same period, purchases by private U.S. investors of foreign securities declined nearly \$100 billion. Accordingly, the net balance of private securities trading recorded a sharp increase in net inflows.

In contrast, net foreign direct investment inflows fell about \$70 billion between 2001 and 2002. Foreign investment in the United States and investment abroad by U.S. residents both declined, but the decline in flows into the United States was considerably larger, as merger activity slowed and corporate profits showed little vigor. U.S. direct investment abroad held up fairly well in 2002, a result largely reflecting retained earnings.

The Labor Market

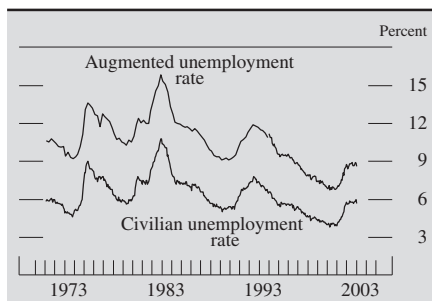
Employment and Unemployment

Labor markets appeared to stabilize last spring after the sharp deterioration of 2001 and early 2002. Employment on private payrolls, which had declined an average of 160,000 per month in 2001, leveled off in the spring and moved slightly higher over the summer. But labor demand weakened again as the economy softened later in the summer, and private employment declined about 80,000 per month on average in the last four months of the year. Private payrolls rebounded nearly 150,000 in January, though the magnitude of both the especially sharp decline in December and the rebound in January likely was exaggerated by difficulties in adjusting for the normal seasonal movements in employment during these months.

The manufacturing sector continued to be the weakest segment of the labor market; even during the spring and early summer, when the overall labor market seemed to be improving, factory payrolls contracted on average. Declines in factory employment were more pronounced—at about 50,000 per month—toward the end of the year. Employment at help-supply firms and in wholesale trade—two sectors in which activity closely tracks that of manufacturing proper—rose over the summer but also turned down again later in the year. And employment in retail trade, though quite erratic, leveled off over the summer before declining further in the fall. However, employment in services other than help supply grew reasonably steadily throughout the year and rose nearly 50,000 per month after March; health services and education services contributed more than half of those job gains. The finance and real estate sectors also added jobs last year, probably because of the surge in mortgage refinancings and high levels of activity in housing markets. Last year's job losses in the private sector were partially offset by an increase in government employment that averaged about 20,000 per month; the increase resulted mostly from hiring by states and municipalities, but it also reflected hiring in the fall by the Transportation Security Administration.

Overall employment moved lower, on net, and the unemployment rate increased a little less than $\frac{1}{2}$ percentage point over the year, to 6 percent, before dropping back to 5.7 percent in January 2003. The unemployment rate probably has been boosted slightly by the federal temporary extended unemployment compensation program. By extending benefits for an additional three months, the program allows unemployed individuals whose regular bene-

Measures of Labor Utilization



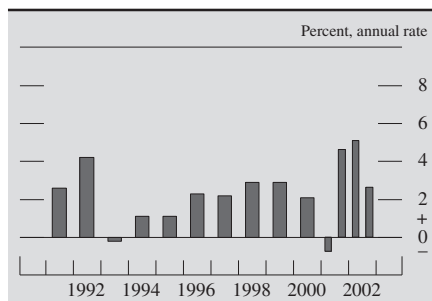
NOTE. The data extend through January 2003. The civilian rate is the number of civilian unemployed divided by the civilian labor force. The augmented rate adds to the numerator and the denominator of the civilian rate the number of those who are not in the labor force but want a job. The small break in the augmented rate in January 1994 arises from the introduction of a redesigned survey. For the civilian rate, the data are monthly; for the augmented rate, the data are quarterly through December 1993 and monthly thereafter.

fits have expired to be more selective in accepting job offers and provides them with an incentive not to withdraw from the labor force. In addition, as would be expected in a still-weak labor market, the labor force participation rate moved lower last year.

Productivity and Labor Costs

Labor productivity rose impressively in 2002. Output per hour in the nonfarm business sector increased an estimated

Change in Output Per Hour



NOTE. Nonfarm business sector.

3¾ percent from the fourth quarter of 2001 to the fourth quarter of 2002. Labor productivity typically suffers in an economic downturn as businesses reduce hours worked by proportionally less than the decline in output; conversely, productivity typically rebounds early in an expansion as labor is brought back toward fuller utilization. During the most recent downturn, however, productivity held up comparatively well, a performance that makes last year's surge all the more impressive. Indeed, productivity rose at an average annual rate of nearly 3 percent over the past two years, faster than the average pace of increase during the late 1990s.

Very likely, the rapid pace of last year's productivity growth was due in part to the special circumstances that developed after the September 11 attacks. Businesses cut labor substantially in late 2001 and early 2002 amid widespread fear of a sharp decline in demand; when demand held up better than expected, businesses proved able to operate satisfactorily with their existing workforces. Moreover, the fact that this step-up in productivity was not reversed later in the year suggests that at least a portion of it is sustainable. The recent rapid growth in productivity may derive in part from ongoing improvements in the use of the vast amount of capital installed in earlier years, and it may also stem from organizational innovations induced by the weak profit environment.

Indicators of hourly compensation sent mixed signals last year. The rise in the employment cost index (ECI) for hourly compensation in private nonfarm businesses, 3¼ percent, was 1 percentage point lower than the increase in 2001. Compensation increases likely were damped last year by the soft labor market and expectations of lower consumer price inflation. The wages and salaries component and the benefits

component of the ECI both posted smaller increases last year. The deceleration was less pronounced for the benefits component, however, which was boosted by further large increases in employers' health insurance costs. According to the ECI, health insurance costs, which constitute about 6 percent of overall compensation, rose 10 percent last year after having risen about 9 percent in each of the preceding two years.

An alternative measure of compensation costs is compensation per hour in the nonfarm business sector, which is derived from information in the national income and product accounts. According to this measure, hourly compensation rose 4¼ percent last year—a little more than the increase in the ECI and up from a much smaller increase in 2001. One important difference between these two measures of compensation is that the ECI omits stock options, while nonfarm compensation per hour captures the value of these options upon exercise. The very small increase in the latter measure in 2001 likely reflects, in part, a drop in option exercises in that year, and the larger increase in 2002 may point to a firming, or at least to a smaller rate of decline, of these exercises.

Prices

The chain-type price index for personal consumption expenditures (PCE) rose about 2 percent last year, compared with an increase of 1½ percent in 2001. This step-up in consumer price inflation resulted from a jump in energy prices. Outside of the energy sector, consumer price inflation was pushed lower last year by continued slack in labor and product markets as well as by expectations of future inflation that appeared to be lower in 2002 than in most of 2001. The increase in PCE prices excluding food and energy, which was just 1¾ per-

Alternative Measures of Price Change

Percent

Price measure	2001	2002
<i>Chain-type</i>		
Gross domestic product	2.0	1.3
Gross domestic purchases	1.3	1.6
Personal consumption expenditures	1.5	1.9
Excluding food and energy ...	1.9	1.7
Chained CPI	1.2	1.9
Excluding food and energy ...	1.8	1.6
<i>Fixed-weight</i>		
Consumer price index	1.9	2.3
Excluding food and energy ...	2.7	2.1

NOTE. Changes are based on quarterly averages and are measured to the fourth quarter of the year indicated from the fourth quarter of the preceding year.

cent, was about $\frac{1}{4}$ percentage point less than in 2001. The price index for GDP was less affected by last year's rise in energy prices than was the PCE measure; much of the energy price increase was attributable to higher prices of imported oil, which are not included in GDP because they are not part of domestic production. On net, GDP prices rose only $\frac{1}{4}$ percent last year, a deceleration of $\frac{3}{4}$ percentage point that reflected not just the deceleration in core consumer prices but also considerably smaller increases for prices of construction.

The upturn in consumer energy prices in 2002 was driven by a jump in crude oil prices. Gasoline prices increased some 25 percent from December 2001 to December 2002; prices of fuel oil increased considerably as well. By contrast, consumer prices of natural gas posted only a modest rise after declining sharply in 2001, and electricity prices moved lower. More recently, the rise in crude oil prices since mid-December, together with cold weather, has increased the demand for natural gas and has led to higher spot gas prices; the higher spot prices for both oil and gas are likely to be boosting consumer energy prices early this year.

The PCE price index for food and beverages increased only $\frac{1}{2}$ percent last year; the increase followed a 3 percent rise in 2001 that reflected supply-related price increases for many livestock products including beef, poultry, and dairy products. But livestock supplies had recovered by early last year, and a drought-induced selloff of cattle herds last summer pushed prices still lower.

The prices of goods other than food and energy items decelerated sharply last year. Prices for apparel, new and used motor vehicles, and a wide range of other durable goods all declined noticeably and, on average, at a faster pace than in 2001. Price increases for services were much larger than for goods and slowed less from the previous year. Both tenants' rent and the imputed rent of owner-occupied housing—categories that account for a sizable share of services—rose significantly less last year than they did in 2001. But many other services prices posted increases in 2002 that were about the same as in 2001. Information on medical prices was mixed. According to the CPI, the price of medical services continued to accelerate, rising $5\frac{1}{2}$ percent last year. But the increase in the PCE measure of medical services prices was less than 3 percent, a smaller increase than in 2001. One reason for this difference is that the prices of services paid for by Medicare and Medicaid are included in the PCE index but not in the CPI (because services provided by Medicare and Medicaid do not represent out-of-pocket costs to consumers and so are outside of the CPI's scope), and Medicare reimbursement rates for physicians were reduced last year.

Despite the acceleration in medical prices in the CPI but not in the PCE price index, the CPI excluding food and

energy decelerated notably more than did the core PCE price index between 2001 and 2002. The two price measures differ in a number of respects, but much of last year's greater deceleration in the CPI can be traced to the fact that the CPI suffers from a form of "substitution bias" that is not present in the PCE index. The CPI, being a fixed-weight price index, overstates increases in the cost of living because it does not adequately take into account the fact that consumers tend to substitute away from goods that are rising in relative price; by contrast, the PCE price index does a better job of taking this substitution into account. Last year, the Bureau of Labor Statistics began to publish a new index called the chained CPI; like the PCE price index, the chained CPI does a more complete job of taking consumer substitution into account, but it is otherwise identical to the official CPI. In 2001, an unusually large gap between increases in the official CPI and the chained CPI arose, pointing to very large substitution bias in the official CPI in that year. This gap narrowed in 2002, indicating that substitution bias declined between the two years. (Final estimates of the chained CPI are not yet available; the currently available data for both 2001 and 2002 are preliminary and subject to revision.)

Survey measures of expected inflation generally ran a little lower in 2002 than in 2001. According to the Michigan SRC, median one-year inflation expectations plummeted after the September 11 attacks, but by early 2002, expectations returned to the $2\frac{3}{4}$ percent range that had prevailed during the previous summer. These expectations gradually moved lower over the course of last year and now stand around $2\frac{1}{2}$ percent. Meanwhile, the Michigan SRC's measure of five- to ten-year inflation expectations remained steady at about

$2\frac{3}{4}$ percent during 2002, a rate a little lower than the 3 percent inflation expectations that had prevailed through most of 2001.

U.S. Financial Markets

Developments in financial markets last year were shaped importantly by sharp declines, on net, in equity prices and most long-term interest rates and by periods of heightened market volatility. In contrast to 2001, when the Federal Reserve eased the stance of monetary policy eleven times, last year saw one reduction in the intended federal funds rate—in early November—and interest rates on short-term Treasury securities had moved little until then. Longer-term interest rates, by contrast, were more volatile. Investors' optimism about future economic prospects pressured longer-term Treasury bond yields higher early in 2002. But as the year progressed, that optimism faded when the economy failed to gather much momentum, and longer-term Treasury yields ended the year appreciably lower. Softer-than-expected readings of the economic expansion, a marked deterioration in corporate credit quality, concerns about corporate governance, and heightened geopolitical tensions made investors especially wary about risk. Lower-rated firms found credit substantially more expensive, as risk spreads on speculative-grade debt soared for most of the year before narrowing somewhat over the last few months. Even for higher-quality firms, risk spreads widened temporarily during the tumultuous conditions that prevailed in financial markets over the summer. In addition, commercial banks tightened standards and terms for business borrowers, on net, in 2002, and risk spreads on business loans remained in an elevated range throughout the year. Increased caution

on the part of investors was particularly acute in the commercial paper market, where the riskiest issuers discontinued their programs.

Federal borrowing surged last year, while private borrowing was held down by the significantly reduced credit needs of business borrowers. Declines in longer-term interest rates during the first half of the year created incentives for both businesses and households to lock in lower debt-service obligations by heavily tapping corporate bond and home mortgage markets, respectively. While mortgage borrowing remained strong, businesses sharply curtailed their issuance of longer-term debt during the second half of 2002 amid the nervousness then prevailing in the financial markets.

Interest Rates

Reflecting an unchanged stance of monetary policy over most of last year, short-term market interest rates moved little until early November, when the FOMC lowered the target federal funds rate $\frac{1}{2}$ percentage point, and other short-term interest rates followed suit. Yields on intermediate- and long-term Treasury securities, by contrast, declined

as much as $1\frac{1}{2}$ percentage points, on net, in 2002. Longer-term interest rates began last year under upward pressure, as signs that the economy had bottomed out started to nudge rates higher in the final weeks of 2001. Positive economic news pushed interest rates up appreciably further during the first quarter of 2002. The increase in longer-term interest rates was consistent with the sharp upward tilt of money market futures rates, which suggested that market participants expected that the FOMC would almost double the intended level of the funds rate by year's end. However, as readings on the strength of the economic expansion came in on the soft side, investors substantially trimmed their expectations for policy tightening, and yields on longer-term Treasury securities turned down in the spring.

The slide in longer-term Treasury yields intensified over the summer amid weaker-than-expected economic data, heightened geopolitical tensions, fresh revelations of corporate malfeasance, and disappointing news about near-term corporate profits. In concert, these developments prompted investors to mark down their expectations for economic growth and, consequently, their anticipated path for monetary policy. A widespread retrenchment in risk-taking sent yields on speculative-grade corporate bonds sharply higher and kept those on the lower rungs of investment grade from declining, even as longer-term nominal Treasury yields fell to very low levels by the end of July.

The uneventful passing of the Securities and Exchange Commission's August 14 deadline for officers of large companies to certify corporate financial statements somewhat assuaged investors' anxieties about corporate governance problems. But subsequent news suggesting that the economy was losing momentum and a flare-up in ten-

Interest Rates on Selected Treasury Securities



NOTE. The data are daily and extend through February 5, 2003.

sions with Iraq further boosted demand for Treasury securities. The FOMC's decision at the August meeting—to leave the intended federal funds rate unchanged but to judge the balance of risks to the outlook as weighted toward economic weakness—pulled the expected path of the funds rate lower, and longer-term Treasury yields sank to forty-year lows in early autumn. A high degree of investor uncertainty about the future path of monetary policy was evidenced by implied volatilities of short-term interest rates derived from option prices, which soared to record levels in early autumn. The size of the FOMC's November cut in the target federal funds rate and the shift to balance in its assessment of risks surprised market participants, but the policy easing appeared to lead investors to raise the odds that the economy would pick up from its sluggish pace. Generally positive economic news and rising equity prices over the remainder of the year also bolstered confidence and prompted market participants to mark up the expected path for monetary policy and push up longer-term Treasury yields.

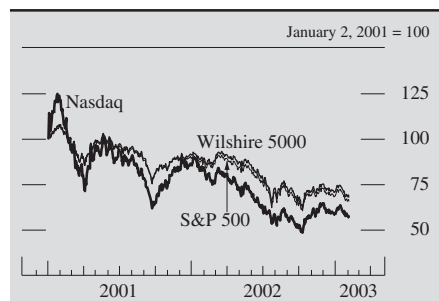
Yields on higher-quality investment-grade corporate bonds generally tracked those on Treasuries of comparable maturity last year, although risk spreads on these instruments widened moderately over the summer and early autumn before narrowing over the remainder of the year. Interest rates on below-investment-grade corporate debt, by contrast, increased for much of last year, as spreads over Treasuries ballooned in response to mounting concerns about corporate credit quality, historically low recovery rates on defaulted bonds, and revelations of improper corporate governance; credit risk spreads widened in all speculative sectors but especially in telecom and energy. By the summer, investors' retreat from risk-taking had wid-

ened bid-asked spreads in the corporate bond market enough to impair trading. Risk spreads on speculative-grade bonds narrowed considerably over the year's final quarter and in early 2003, though they remain elevated by historical standards; risk spreads for the weaker speculative-grade credits remain exceptionally wide, as investors evidently anticipate a continued high level of defaults and low recovery rates.

Equity Markets

Equity prices were buffeted last year by considerable fluctuations in investors' assessments of the outlook for the economy and corporate earnings and by doubts about the quality and transparency of corporate balance sheets. Net declines in stock prices in 2002 exceeded those posted during either of the preceding two years. Worries about the pervasiveness of questionable corporate governance and a deterioration in the earnings outlook—especially in the technology sector—depressed equity prices in early 2002. The positive tenor of economic data, however, managed to outweigh those concerns, and stock prices staged a rally halfway through the first quarter, with the gains tilted toward “old economy” firms. But the rebound

Major Stock Price Indexes



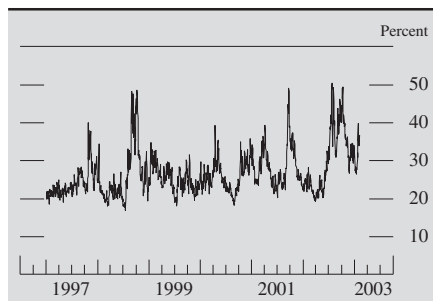
NOTE: The data are daily and extend through February 5, 2003.

was short lived. Share prices started to tumble in early spring across all sectors as weaker-than-expected economic data eroded investors' confidence in the strength of the economic expansion. These developments were reinforced by first-quarter corporate earnings reports that, though mostly matching or exceeding investors' expectations, painted a bleak picture of prospective sales and profits.

Over the spring and summer, accounting scandals, widespread warnings about near-term corporate profitability, and heightened geopolitical tensions intensified the slide in stock prices. Particularly large declines in share prices were posted for technology firms, whose prospects for sales and earnings were especially gloomy. Equity prices were boosted briefly by the uneventful passing of the August 14 deadline to certify financial statements, but they quickly reversed course on continued concerns about the pace of economic growth and corporate earnings and the escalating possibility of military action against Iraq. By early October, equity indexes sank to their lowest levels since the spring of 1997, and implied stock price volatility on the S&P 100 surged to its highest reading since the stock market crash of 1987. The drop in stock prices widened the gap between the expected year-ahead earnings-price ratio for the S&P 500 and the real ten-year Treasury yield—one simple measure of the equity premium—to levels not seen since the mid-1990s.

Share prices turned around in late October, as the third-quarter corporate earnings reports were not as weak as investors had originally feared. Equity prices were also given a boost in early November by the larger-than-expected monetary policy easing, and the rally was sustained over the remainder of the year by the generally encouraging tone

Implied S&P 100 Volatility



NOTE. The data are daily and extend through February 5, 2003. The series shown is the implied volatility of the S&P 100 stock price index as calculated from the prices of options that expire over the next several months.

SOURCE. Chicago Board Options Exchange.

of economic data. Greater confidence among investors in the economic outlook also helped bring down the implied volatility on the S&P 100 significantly by year-end, although it remains at an elevated level by historical standards. Despite the fourth-quarter rebound, broad equity indexes were down, on net, about 20 percent in 2002, while the tech-heavy Nasdaq lost more than 30 percent.

The decline in equity prices during the first three quarters of 2002 is estimated to have erased more than \$3½ trillion in household wealth, a loss of nearly 9 percent of total household net worth, although the fourth-quarter rise in stock prices restored about \$600 billion. Still, the level of household net worth at the end of last year was more than 40 percent higher than it was at the start of the bull market in 1995. Equity prices maintained their upward momentum during the first half of January 2003 but then fell sharply amid the looming prospects of military action against Iraq and a still-gloomy outlook for corporate earnings. Broad stock price indexes have lost almost 5 percent this year; however, solid fourth-quarter earnings from many

prominent technology companies helped brighten investors' sentiment regarding that sector, and the Nasdaq is down about 3 percent this year.

Debt and Financial Intermediation

A deceleration of business borrowing slowed growth of the debt of nonfederal sectors about 1 percentage point in 2002, to 6½ percent. By contrast, the decline in interest rates last year kept borrowing by households and state and local governments brisk. At the federal level, weak tax receipts and an acceleration in spending pushed debt growth to 7½ percent last year after a slight contraction in 2001.

For the year as a whole, corporate borrowing was quite weak, mainly because of sagging capital expenditures, a drying up of merger and acquisition activity, and a reliance on liquid assets. Although businesses tapped bond markets in volume over the first half of the year, subsequent concerns about the reliability of financial statements and the quality of corporate governance and deteriorating creditworthiness ruined investors' appetite for corporate debt in the summer and early autumn. Households, by contrast, flocked to the mortgage markets to take advantage of low mortgage rates throughout the year, and strong motor vehicle sales supported the expansion of consumer credit. For depository institutions, the net effect of these developments was an acceleration of credit to 6½ percent last year, 2 percentage points above the pace of 2001. The growth of credit at thrift institutions moderated, though the slowdown can be attributed for the most part to a large thrift institution's conversion to a bank charter. The growth of credit at commercial banks accelerated to 6¾ percent—a significant increase from the anemic pace in 2001; the

pickup was driven by large acquisitions of securities, especially mortgage-backed securities, as well as a surge in home equity and residential real estate lending.

By contrast, business lending at commercial banks dropped 7 percent last year after falling almost 4 percent in 2001; last year's decline kept overall loan growth for 2002 to about 5 percent. In the October Senior Loan Officer Opinion Survey on Bank Lending Practices, respondents noted that the decline in commercial and industrial (C&I) lending since the beginning of the year reflected not only the limited funding needs of creditworthy borrowers that found bond financing or a runoff of liquid assets more attractive, but also a reduction in the pool of creditworthy borrowers. Over the course of last year, banks reported some additional net tightening of standards and terms on C&I loans, mainly in response to greater uncertainty about the economic outlook and rising corporate bond defaults, although the proportions of banks that reported doing so declined noticeably. Direct measures of loan pricing conditions from the Federal Reserve's quarterly Survey of Terms of Business Lending also indicated that banks were cautious lenders last year, as the average spread of C&I loan rates over market interest rates on instruments of comparable maturity remained wide, and spreads on new higher-risk loans declined only slightly from the lofty levels that prevailed over the first half of the year. Although bank lenders were wary about business borrowers, especially toward lower-rated credits, they did not significantly constrict the supply of loans: Most small firms surveyed by the National Federation of Independent Businesses in 2002 reported that they experienced little or no difficulty satisfying their borrowing needs.

Loan quality at commercial banks improved overall last year. Loan delinquency rates edged down through the third quarter of 2002—the latest period for which Call Report data are available—in response to better performance of residential real estate and consumer loans and a stable delinquency rate on C&I loans. Despite the improvement in consumer loan quality, domestic banks imposed somewhat more stringent credit conditions when lending to households, according to the survey on bank lending practices. Moderate net proportions of surveyed institutions tightened credit standards and terms for credit card and other consumer loans throughout last year. The net fraction of banks that tightened standards on residential mortgage loans rose late in the year to the highest share in the past decade, but nonetheless remained quite low. Commercial banks generally registered strong profit gains last year, although steep losses on loans to energy and telecommunications firms significantly depressed profits at several large bank holding companies. Despite the increased rate of provisioning for loan losses, the banking sector's profitability stayed in the elevated range recorded for the past several years, as a result of the robust fee income from mortgage and credit card lending, effective cost controls, and the relatively inexpensive funding offered by inflows of core deposits. As of the third quarter of last year, virtually all assets in the banking sector were at well-capitalized institutions, and the substitution of securities for loans on banks' balance sheets helped edge up risk-based capital ratios.

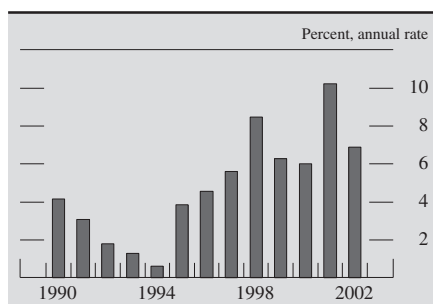
The financial condition of insurance companies, by contrast, worsened notably last year. Both property and casualty insurers and life and health insurers sustained significant investment losses from the decline in equity prices and the

deterioration in corporate credit quality. However, these negative pressures were offset somewhat by the continued strong growth of insurance premiums, and both sectors of the insurance industry stayed fairly well capitalized in 2002.

Monetary Aggregates

The broad monetary aggregates decelerated noticeably last year after surging in 2001. Short-term market interest rates, which had declined swiftly during 2001, were stable over the first half of the year; deposit rates, in a typical pattern of lagged adjustment, continued to fall. Consequently, the opportunity cost of holding M2 assets increased, especially for its liquid deposit (checking and savings accounts) and retail money fund components, thereby restraining the demand for such assets. After decelerating in the first half of the year, M2 rebounded significantly in the second half, because of a surge in liquid deposits and retail money market mutual funds. The strength in both components partly reflected elevated volatility in equity markets against the backdrop of a still-low opportunity cost of holding such deposits. In addition, another wave

M2 Growth Rate



NOTE: M2 consists of currency, travelers checks, demand deposits, other checkable deposits, savings deposits (including money market deposit accounts), small-denomination time deposits, and balances in retail money market funds.

of mortgage refinancing boosted M2 growth during this period. (Refinancings cause prepayments to accumulate temporarily in deposit accounts before being distributed to investors in mortgage-backed securities.) All told, over the four quarters of the year, M2 increased 7 percent, a pace that exceeded the expansion of nominal income. As a result, M2 velocity—the ratio of nominal GDP to M2—declined for the fifth year in a row, roughly in line with the drop in the opportunity cost of M2 over this period.

Reflecting in part the slowing of its M2 component, M3—the broadest money aggregate—expanded 6½ percent in 2002, a pace well below the 12¾ percent advance posted in 2001. Growth in M3 was also held down by a sharp deceleration of institutional money funds, as their yields dropped to close alignment with short-term market interest rates. This effect was only partly offset by the pickup in needs to fund bank credit, which resulted in an acceleration in the issuance of managed liabilities, including large time deposits. M3 velocity continued to decline in 2002.

New Discount Window Programs

On October 31, 2002, following a three-month public comment period, the Board of Governors approved changes to its Regulation A that established two new types of loans to depository institutions—primary and secondary credit—and discontinued the adjustment and extended credit programs. The new programs were implemented on January 9, 2003. The seasonal credit program was not altered.

The primary reason for adopting the new programs was to eliminate the subsidy to borrowing institutions that was implicit in the basic discount rate, which

since the late 1960s had usually been set below market interest rates. The subsidy required Federal Reserve Banks to administer credit extensions heavily in order to ensure that borrowing institutions used credit only in appropriate circumstances—specifically, when they had exhausted other reasonably available funding sources. That administration was necessarily somewhat subjective and consequently difficult to apply consistently across Reserve Banks. In addition, the heavy administration was one factor that caused depository institutions to become reluctant to use the window even in appropriate conditions. Also, depository institutions were concerned at times about being marked with a “stigma” if market analysts and counterparties inferred that the institution was borrowing from the window and suspected that the borrowing signaled that the institution was having financial difficulties. The resulting reluctance to use the window reduced its usefulness in buffering shocks to the reserve market and in serving as a backup source of liquidity to depository institutions, and thus undermined its performance as a monetary policy tool.

To address these issues, the Board of Governors specified that primary credit may be made available at an above-market interest rate to depository institutions in generally sound financial condition. The above-market interest rate eliminates the implicit subsidy. Also, restricting eligibility for the program to generally sound institutions should reduce institutions’ concerns that their borrowing could signal financial weakness.

The Federal Reserve set the initial primary credit rate at 2.25 percent, 100 basis points above the FOMC’s target federal funds rate as of January 9, 2003. The target federal funds rate remained unchanged, and thus the adop-

tion of the new programs did not represent a change in the stance of monetary policy. In the future, the primary credit rate will be adjusted from time to time as appropriate, using the same discretionary procedure that was used in the past to set the adjustment credit rate. The Federal Reserve also established procedures to reduce the primary credit rate to the target federal funds rate in a national emergency, even if key policymakers are unavailable.

Institutions that do not qualify for primary credit may obtain secondary credit when the borrowing is consistent with a prompt return to market sources of funds or is necessary to resolve severe financial difficulties. The interest rate on secondary credit is set by formula 50 basis points above the primary credit rate. The rate was set initially at 2.75 percent. Because secondary credit borrowers are not in sound financial condition, extensions of secondary credit usually involve some administration.

International Developments

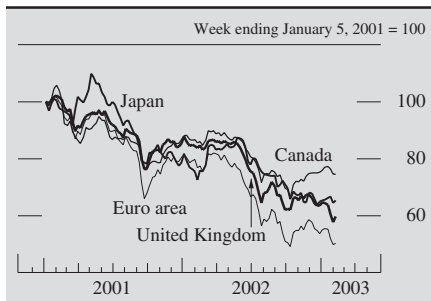
The international economy rebounded in 2002 after a stagnant performance in 2001, but recovery was uneven in both timing and geographical distribution. Growth abroad picked up sharply in the first half of last year, as a strong rally in the high-tech exporting economies in developing Asia was joined by robust growth in Canada and, to a lesser extent, Mexico. Japan also posted respectable growth in the first half, largely as a result of a surge of exports. However, performance in the euro area remained sluggish, and several South American economies experienced difficulties, with full-fledged crises in Argentina and Venezuela and mounting concerns about prospects for Brazil. As the U.S. economy decelerated in the second half, the

rapid pace of recovery slowed in developing Asia and in Canada, while performance remained lackluster in much of the rest of the world.

Monetary policy actions abroad also diverged across countries in 2002 as authorities reacted to differing economic conditions. In Canada, official interest rates were raised in three steps by July amid concerns that buoyant domestic demand and sharply rising employment would ignite inflationary pressures. Monetary authorities in Australia and Sweden also increased policy rates in the first half of the year. However, as economic conditions weakened around the world in the second half, official interest rates were held constant in Canada and Australia and were lowered in Sweden. Monetary policy was held steady throughout 2002 in the United Kingdom, where growth was moderate and inflation subdued, but official interest rates were lowered 25 basis points, to 3.75 percent, in early February 2003 in response to concerns about the prospects for global and domestic demand. The European Central Bank (ECB) held rates constant through most of the year, as inflation remained above the ECB's 2 percent target ceiling, but rates were lowered 50 basis points in December as the euro area's already weak recovery appeared to be stalling. Japanese short-term interest rates remained near zero, while authorities took some limited further steps to stimulate demand through nontraditional channels. Monetary policy was tightened in both Mexico and Brazil in response to concerns about the inflationary effects of past currency depreciation.

Yield curves in the major foreign industrial countries steepened and shifted up in the first quarter of 2002 in response to generally favorable economic news, but later they flattened out and moved back down as the outlook

Equity Indexes in Selected Foreign Industrial Countries



NOTE. The data are weekly. The last observations are the average of trading days through February 5, 2003.

deteriorated. Similarly, equity prices in the major foreign industrial economies held up well early in the year but then declined along with the U.S. stock market and ended the year down sharply from the previous year. The performance of the stock markets in the emerging-market economies was mixed. Share prices in Brazil and Mexico fell sharply in the second and third quarters but then showed some improvement toward the end of the year. In the Asian emerging-market economies, equity prices rose in the first half of 2002 on a general wave of optimism, especially in the high-technology producing econo-

Equity Indexes in Selected Emerging Markets



NOTE. The data are weekly. The last observations are the average of trading days through February 5, 2003.

mies; equity prices began to decline around midyear as global demand softened but posted modest rebounds late in the year.

The foreign exchange value of the dollar continued its mild upward trend into the early part of 2002, as it appeared that the United States was poised to lead a global economic recovery. However, the dollar weakened sharply in the late spring and early summer amid deepening concerns about U.S. corporate governance and profitability. Around that time market analysts also appeared to become more worried about the growing U.S. current account deficit and its potential negative influence on the future value of the dollar. The dollar rebounded somewhat around midyear as growth prospects for other major economies, particularly in the euro area, appeared to dim; the dollar dropped back again late in the year, as geopolitical tensions intensified, and continued to depreciate in early 2003. In nominal terms the dollar has declined about 5 percent on balance over the past year, with depreciations against the currencies of the major industrial countries and several of the developing Asian economies partly offset by appreciation against the currencies of several Latin American countries.

Industrial Economies

The Canadian economy recorded the strongest performance among the major foreign industrial countries last year despite some slowing in the second half. The strength, which was largely home-grown, reflected robust growth of consumption and residential construction as well as an end to inventory runoffs early in the year. The expansion was accompanied by very rapid increases in employment and utilization of capacity, and the core inflation rate breached the

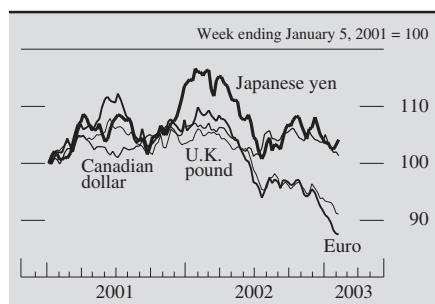
upper end of the government's 1 percent to 3 percent target range near the end of the year. The Canadian dollar appreciated against the U.S. dollar in the first half of the year, but it dropped back somewhat in the second half as the economy slowed; by the end of the year it was up only slightly on balance. The Canadian dollar has moved up somewhat more so far this year.

The Japanese economy recorded positive growth during 2002, although it was not enough to fully reverse the decline in output that occurred in 2001. Despite about 10 percent appreciation of the yen against the dollar in 2002, Japanese growth was driven largely by exports, with smaller contributions from both increased consumption and a slower pace of inventory reduction. In contrast, private investment continued to decline, although not as sharply as in 2001. Labor market conditions remained quite depressed, and consumer prices continued to fall. Little progress was made on the serious structural problems that have plagued the Japanese economy, including the massive and growing amount of bad loans on the books of Japanese banks. A new set of official measures that aims at halving the value of bad loans within two and a half years was

announced in the fall, but the details of this plan are still not fully specified. In September, the Bank of Japan announced a plan to buy shares from banks with excessive holdings of equity, which would help to reduce bank exposure to stock market fluctuations. Because the transactions are to occur at market prices, there would be no net financial transfer to the banks. Near the end of last year the Bank of Japan (BOJ) raised its target range for bank reserves at the BOJ from ¥10–15 trillion to ¥15–20 trillion, increased the monthly amount of its outright purchases of long-term government bonds, and broadened the range of collateral that can be used for market operations. In December the monetary base was up about 20 percent from a year earlier, a rise partially reflecting the increased level of bank reserves at the BOJ. However, the twelve-month rate of base money growth was considerably below the 36 percent pace registered in April. Broad money growth remains subdued.

Economic performance in the euro area was quite sluggish last year. Although exports were up sharply, growth in consumption was modest, and private investment declined. The area's lackluster economic performance pushed the unemployment rate up by several tenths of a percentage point by the end of the year. Economic weakness was particularly pronounced in some of the larger countries—Germany, Italy, the Netherlands, and, to a lesser extent, France. In contrast, growth in Spain and some of the smaller euro-area countries—Ireland, Portugal, Finland, and Greece—was much more robust. Headline inflation jumped to a bit above 2½ percent early in the year, owing to higher food and energy prices and in small part to the introduction of euro notes and coins. Increased slack in the economy, however, together with the

U.S. Dollar Exchange Rate against
Selected Major Currencies



NOTE. The data are weekly. Exchange rates are in foreign currency units per dollar. Last observations are the average of trading days through February 5, 2003.

15 percent appreciation of the euro by the end of the year, helped to mitigate inflation concerns, and the ECB lowered its policy interest rate in December. The euro continued to appreciate in early 2003.

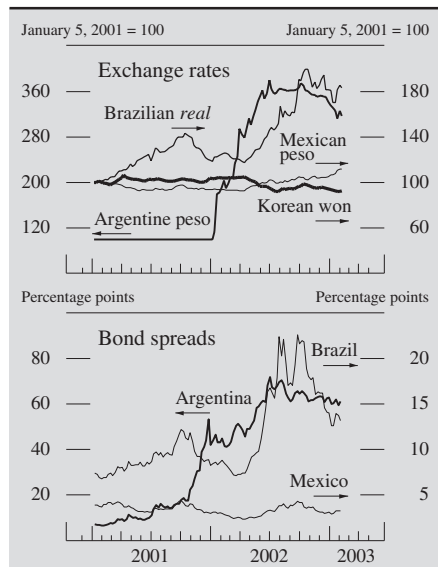
Economic growth in the United Kingdom held up better than in the other major European countries last year, and sterling strengthened about 10 percent versus the dollar. However, the expansion remained uneven, with the services sector continuing to grow more rapidly than the smaller manufacturing sector. Despite tight labor markets, inflation remained a bit below the Bank of England's target of 2½ percent for most of the past year. A sharp rise in housing prices has, however, raised some concern about the possibility of a real estate price bubble. The British government announced its intention to complete a rigorous assessment of its criteria for joining the European Monetary Union (EMU) by the middle of this year and, if they are met, to hold a referendum on entry.

Emerging-Market Economies

The Brazilian economy posted a surprisingly strong rebound in 2002 despite a major political transition and accompanying turbulence in financial markets. The Brazilian *real* depreciated sharply between May and October, and sovereign bond spreads climbed to 2,400 basis points as it became increasingly likely that Luiz Inácio Lula da Silva (Lula), the Workers' Party candidate, would win the presidential election. Given some of the past stances of the party, this possibility fueled concerns among foreign investors about a potential erosion of fiscal and monetary discipline. In response to the sharp deterioration in financial conditions facing Brazil, a \$30 billion IMF program was

approved in September 2002, \$6 billion of which was disbursed by the end of the year. However, financial conditions improved markedly after Lula won the election in late October and appointed a cabinet perceived to be supportive of orthodox fiscal and monetary policies, including greater central bank independence. By January 2003 the *real* had reversed about one-fourth of its previous decline against the dollar, and bond spreads had fallen sharply. However, the new administration still faces some major challenges. In particular, serious concerns remain over the very large quantity and relatively short maturity of the outstanding government debt. In addition, last year's currency depreciation fueled a rise in inflation that has

U.S. Dollar Exchange Rates and Bond Spreads for Selected Emerging Markets



NOTE. The data are weekly averages that are indexed to the week ending January 5, 2001. Exchange rates (top panel) are in foreign currency units per dollar. Bond spreads (bottom panel) are the J.P. Morgan Emerging Market Bond Index (EMBI+) spreads over U.S. Treasuries. Last observations are the average of trading days through February 5, 2003.

prompted several increases in the monetary policy interest rate. In January the government raised the upper bound of its inflation target range for this year to 8.5 percent from 6.5 percent, although the target for next year was lowered at the same time to 5.5 percent from 6.25 percent.

Argentine GDP contracted further in 2002 after declining 10 percent in 2001. The currency board arrangement that had pegged the peso at a one-to-one rate with the dollar collapsed early last year; the peso lost nearly three-fourths of its value by late June, and sovereign bond spreads spiked to more than 7,000 basis points. By early 2002, the banking system had become effectively insolvent as a result of the plunging peso, the weak economy, and the government's default on debt that the banks held mostly involuntarily. Confronted with this situation, the government forced the conversion of the banks' dollar-denominated assets and liabilities to pesos and also mandated the rescheduling of a large share of deposits. As a result of these and other measures, confidence in the banking system, already shaken, was further impaired. Financial and economic conditions eventually stabilized in the second half of the year, but there are no signs yet of a sustained recovery. The government also defaulted on obligations to multilateral creditors in late 2002 and early 2003. In January, Argentina and the International Monetary Fund reached agreement on a \$6.6 billion short-term program that will go to meeting Argentina's payments to the IMF at least through the elections expected in the spring and also to clearing its overdue obligations to the multilateral development banks.

Venezuela experienced extreme economic and political turmoil over the past year. In February 2002 the central bank abandoned the bolivar's crawling peg to

the dollar, and the bolivar depreciated sharply. Opponents of President Hugo Chavez mounted a short-lived coup in April and declared a national strike in early December. The strike brought the already-weak economy to a standstill, and output in the key oil industry plummeted. The strike abated in early February in all sectors but oil. In response to the strike, Chavez increased his control of the state-owned oil company and oil production began rising in early 2003, but it was still well below pre-strike levels. With the exchange rate plunging in late January, the government suspended currency trading for two weeks before establishing a fixed exchange rate regime and some restrictions on foreign currency transactions.

One of the few bright spots in Latin America last year was the Mexican economy. Boosted by the U.S. recovery, growth was moderate for the year as a whole despite some late slowing. However, financial conditions deteriorated somewhat after midyear as market participants reevaluated the strength of the North American recovery. Mexican stock prices slid about 25 percent between April and September, and sovereign bond spreads widened nearly 200 basis points to around 430 basis points over the same period. Nevertheless, the Mexican economy did not appear to be much affected by spillovers from the problems elsewhere in Latin America; bond spreads dropped sharply between October and the end of the year to around 300 basis points, a level considerably lower than elsewhere in the region. The peso depreciated about 12 percent against the dollar over the course of last year. The decline fueled an increase in twelve-month inflation to more than 5½ percent by year-end. The acceleration put inflation above the government target rate of 4½ percent and well above the ambitious 3 percent tar-

get set for 2003. In response to increasing inflation, the Bank of Mexico has tightened monetary policy four times since September 2002. The peso has continued to depreciate in early 2003, and bond spreads have moved back up a bit.

The Asian emerging-market economies generally performed well in 2002, although there were significant differences within the region. Outside of China, the strongest growth was recorded in South Korea, which benefited in the first half of the year from both an upturn in global demand for high-tech products and a surge in domestic demand, particularly consumption. However, consumer confidence deteriorated at the end of the year as tensions over North Korea intensified; the uneasy situation, as well as the substantial existing consumer debt burden, pose significant risks to growth in consumption this year. The Korean won appreciated sharply against the dollar between April and midyear in response to improving economic conditions; it then dropped back in late summer and early fall as perceptions about the strength of the global recovery were adjusted downward. However, the won turned back up against the dollar late last year.

The performance of the ASEAN-5 economies—Indonesia, Malaysia, the Philippines, Singapore, and Thailand—also was generally robust in 2002, although the overall softening in global demand in the second half of the year was evident there as well. The second-half slowing in production was particularly pronounced in Singapore, which is heavily dependent on exports of high-technology products. Taiwan, another high-technology producer, also showed a significant deceleration in output between the first and second halves of the year. Both of these economies experienced some mild deflation in 2002, although prices turned up toward the end of the year.

Although the Hong Kong economy did not show as much improvement as most other emerging Asian economies in the first half of last year, it recorded very strong growth in the third quarter. Nevertheless, prices continued to fall for the fourth consecutive year. The mainland Chinese economy, which again outperformed the rest of the region in 2002, enjoyed surging investment by the government and by foreign investors as well as robust export growth. The Chinese economy continued to experience mild deflation last year. ■

Monetary Policy Report of July 2002

Monetary Policy and the Economic Outlook

The pace of economic activity in the United States picked up noticeably in the first half of 2002 as some of the powerful forces that had been restraining spending for the preceding year and a half abated. With inventories in many industries having been brought into more comfortable alignment with sales, firms began boosting production around the turn of the year to stem further run-offs of their stocks. And while capital spending by businesses has yet to show any real vigor, the steep contraction of the past year or so appears to have come to an end. Household spending, as it has throughout this cyclical episode, continued to trend up in the first half. With employment stabilizing, the increases in real wages made possible by gains in labor productivity and the effects of a variety of fiscal actions have provided noticeable support to disposable incomes. At the same time, low interest rates have buoyed the purchase of durable goods and the demand for housing. Growth was not strong enough to forestall a rise in the unemployment rate, and slack in product and labor markets, along with declining unit costs as productivity has soared, has helped to keep core inflation low. The exceptionally strong performance of productivity over the past year provides further evidence of the U.S. economy's expanded capac-

ity to provide growth over the longer haul.

The Federal Reserve had moved aggressively in 2001 to counter the weakness that had emerged in aggregate demand; by the end of the year, it had lowered the federal funds rate to 1¾ percent, the lowest level in forty years. With only tentative signs that activity was picking up, the Federal Open Market Committee (FOMC) decided to retain that unusual degree of monetary accommodation by leaving the federal funds rate unchanged at its January meeting. Confirmation of an improvement in activity was evident by the time of the March meeting, and the FOMC moved toward an assessment that the risks to the outlook were balanced between its long-run goals of price stability and maximum sustainable economic growth, a view maintained through its June meeting. The durability and strength of the expansion were recognized to depend on the trajectory of final sales. The extent of a prospective strengthening of final sales was—and still is—uncertain, however, and with inflation likely to remain contained, the Committee has chosen to maintain an accommodative stance of policy, leaving the federal funds rate at its level at the end of last year.

The economy expanded especially rapidly early in the year. As had been anticipated, much of the first quarter's strength in production resulted from the efforts of firms to limit a further draw-down of inventories after the enormous liquidation in the fourth quarter of 2001. With respect to first-quarter sales, purchases of light motor vehicles dropped back from their extraordinary fourth-

NOTE. The discussion in this section consists of the text and tables from the Monetary Policy Report submitted to the Congress on July 16, 2002; the charts from this report (as well as earlier reports) are available on the Board's web site, at www.federalreserve.gov/boarddocs/hh.

quarter level, but other consumer spending increased substantially. Housing starts, too, jumped early in the year—albeit with the help of weather conditions favorable for building in many parts of the country—and spending on national defense moved sharply higher. All told, real GDP is now estimated to have increased at an annual rate in excess of 6 percent in the first quarter.

Economic activity appears to have moved up further in recent months but at a slower pace than earlier in the year. Industrial production has continued to post moderate gains, and nonfarm payrolls edged up in the second quarter after a year of nearly steady declines. However, several factors that had contributed importantly to the outsized gain of real output in the first quarter appear to have made more modest contributions to growth in the second quarter. Available data suggest that the swing in inventory investment was considerably smaller in the second quarter than in the first. Consumer spending has advanced more slowly of late, and while the construction of new homes has expanded further, its contribution to the growth of real output has not matched that of earlier in the year.

Notable crosscurrents remain at work in the outlook for economic activity. Although some of the most recent indicators have been encouraging, businesses still appear to be reluctant to add appreciably to workforces or to boost capital spending, presumably until they see clearer signs of improving prospects for sales and profits. These concerns, as well as ongoing disclosures of corporate accounting irregularities and lapses in corporate governance, have pulled down equity prices appreciably on balance this year. The accompanying decline in net worth is likely to continue to restrain household spending in the period ahead, and less favorable finan-

cial market conditions could reinforce business caution.

Nevertheless, a number of factors are likely to boost activity as the economy moves into the second half of 2002. With the inflation-adjusted federal funds rate barely positive, monetary policy should continue to provide substantial support to the growth of interest-sensitive spending. Low interest rates also have allowed businesses and households to strengthen balance sheets by refinancing debt on more favorable terms. Fiscal policy actions in the form of lower taxes, investment incentives, and higher spending are providing considerable stimulus to aggregate demand this year. Foreign economic growth has strengthened and, together with a decline in the foreign exchange value of the dollar, should bolster U.S. exports. Finally, the exceptional performance of productivity has supported household and business incomes while relieving pressures on price inflation, a combination that augurs well for the future.

Monetary Policy, Financial Markets, and the Economy over the First Half of 2002

The information reviewed by the FOMC at its meeting of January 29 and 30 seemed on the whole to indicate that economic activity was bottoming out and that a recovery might already be under way. Consumer spending had held up remarkably well, and the rates of decline in manufacturing production and business purchases of durable equipment and software had apparently moderated toward the end of 2001. In addition, the expectation that the pace of inventory runoff would slow after several quarters of substantial and growing liquidation constituted another reason for anticipating that economic activity would improve in the period imme-

diately ahead. Nonetheless, looking beyond the near term, the FOMC faced considerable uncertainty about the strength of final demand. Because household spending had not softened to the usual extent during the recession, it appeared likely to have only limited room to pick up over coming quarters. Intense competitive pressures were thought to be constraining the growth of profits, which could damp investment and equity prices. At the same time, the outlook for continued subdued inflation remained favorable given the reduced utilization of resources and the further pass-through of earlier declines in energy prices. Taken together, these conditions led the FOMC to leave the stance of monetary policy unchanged, keeping its target for the federal funds rate at $1\frac{3}{4}$ percent. In light of the tentative nature of the evidence suggesting that the upturn in final demand would be sustained, the FOMC decided to retain its assessment that the more important risk to achieving its long-run objectives remained economic weakness—the possibility that growth would fall short of the rate of increase in the economy’s potential and that resource utilization would fall further.

When the FOMC met on March 19, economic indicators had turned even more positive, providing encouraging evidence that the economy was recovering from last year’s recession. Consumer spending had remained brisk in the early part of the year, the decline in business expenditures on equipment and software appeared to have about run its course, and housing starts had turned back up. Industrial production, which had been falling for nearly a year and a half, increased in January and February as businesses began to meet more of the rise in sales from current production and less from drawing down inventories. Indications that an expansion had taken

hold led to noticeable increases in broad stock indexes and in long-term interest rates. But the strength of the recovery remained unclear. The outlook for business fixed investment—which would be one key to the strength of economic activity once the thrust from inventory restocking came to an end—was especially uncertain, with anecdotal reports indicating that businesses remained hesitant to enter into major long-term commitments. While the FOMC believed that the fiscal and monetary policies already in place would continue to stimulate economic activity, it considered the questions surrounding the outlook for final demand over the quarters ahead still substantial enough to justify the retention of the current accommodative stance of monetary policy, particularly in light of the relatively high unemployment rate and the prospect that the lack of price pressures would persist. Given the positive tone of the available economic indicators, the FOMC announced that it considered the risks to achieving its long-run objectives as now being balanced over the foreseeable future.

By the time of the May 7 FOMC meeting, it had become evident that economic activity had expanded rapidly early in 2002. But the latest statistical data and anecdotal reports suggested that the expansion was moderating considerably in the second quarter and that the extent to which final demand would strengthen was still unresolved. Business sentiment remained gloomy as many firms had significantly marked down their own forecasts of growth in sales and profits over coming quarters. These revised projections, along with the uncertainty surrounding the robustness of the overall economic recovery, had contributed to sizable declines in market interest rates and weighed heavily on equity prices, which had

dropped substantially between the March and May meetings. The outlook for inflation had remained benign despite some firming in energy prices, as excess capacity in labor and product markets held the pricing power of many firms in check, and the apparent strong uptrend in productivity reduced cost pressures. In these circumstances, the FOMC decided to keep the federal funds rate at its accommodative level of $1\frac{3}{4}$ percent and maintained its view that, against the background of its long-run goals of price stability and sustainable economic growth, the risks to the outlook remained balanced.

Over the next seven weeks, news on the economy did little to clarify questions regarding the vigor of the ongoing recovery. The information received in advance of the June 25–26 meeting of the FOMC continued to suggest that economic activity had expanded in the second quarter, but both the upward impetus from the swing in inventory investment and the growth in final demand appeared to have diminished. In financial markets, heightened concerns about accounting irregularities at prominent corporations and about the outlook for profits had contributed to a substantial decline in equity prices and correspondingly to a further erosion in household wealth. But some cushion to the effects on aggregate demand of the decline in share prices had been provided by the fall in the foreign exchange value of the dollar and the drop in long-term interest rates. Although the FOMC believed that robust underlying growth in productivity, as well as accommodative fiscal and monetary policies, would continue to support a pickup in the rate of increase of final demand over coming quarters, the likely degree of the strengthening remained uncertain. The FOMC decided to keep unchanged its monetary policy stance and its view

that the risks to the economic outlook remained balanced.

Economic Projections for 2002 and 2003

The members of the Board of Governors and the Federal Reserve Bank presidents, all of whom participate in the deliberations of the FOMC, expect the economy to expand rapidly enough over the next six quarters to erode current margins of underutilized capital and labor resources. The central tendency of the forecasts for the increase in real GDP over the four quarters of 2002 is

Economic Projections for 2002 and 2003

Percent

Indicator	Federal Reserve Governors and Reserve Bank presidents	
	Range	Central tendency
	2002	
<i>Change, fourth quarter to fourth quarter¹</i>		
Nominal GDP	$4\frac{1}{2}$ – $5\frac{1}{2}$	$4\frac{3}{4}$ – $5\frac{1}{4}$
Real GDP	3–4	$3\frac{1}{2}$ – $3\frac{3}{4}$
PCE chain-type price index	$1\frac{1}{4}$ –2	$1\frac{1}{2}$ – $1\frac{3}{4}$
<i>Average level, fourth quarter</i>		
Civilian unemployment rate	$5\frac{1}{2}$ – $6\frac{1}{4}$	$5\frac{3}{4}$ –6
	2003	
<i>Change, fourth quarter to fourth quarter¹</i>		
Nominal GDP	$4\frac{1}{2}$ –6	5– $5\frac{3}{4}$
Real GDP	$3\frac{1}{4}$ – $4\frac{1}{4}$	$3\frac{1}{2}$ –4
PCE chain-type price index	1– $2\frac{1}{4}$	$1\frac{1}{2}$ – $1\frac{3}{4}$
<i>Average level, fourth quarter</i>		
Civilian unemployment rate	5–6	$5\frac{1}{4}$ – $5\frac{1}{2}$

1. Change from average for fourth quarter of previous year to average for fourth quarter of year indicated.

3½ percent to 3¾ percent, and the central tendency for real GDP growth in 2003 is 3½ percent to 4 percent. The central tendency of the projections of the civilian unemployment rate, which averaged just under 6 percent in the second quarter of 2002, is that it stays close to this figure for the remainder of the year and then moves down to between 5¼ percent and 5½ percent by the end of 2003.

Support from monetary and fiscal policies, as well as other factors, should lead to a strengthening in final demand over coming quarters. Business spending on equipment and software will likely be boosted by rising sales, improving profitability, tax incentives, and by the desire to acquire new capital embodying ongoing technological advances. Improving labor market conditions and a robust underlying trend in productivity growth should further bolster household income and contribute to an uptrend in spending. In addition, the liquidation of last year's inventory overhangs has left businesses in a position to begin rebuilding stocks as they become more persuaded that the recovery in final sales will be sustained.

Most FOMC participants expect underlying inflation to remain close to recent levels through the end of 2003. Core inflation should be held in check by productivity gains that hold down cost increases, a lack of pressure on resources, and well-anchored inflation expectations. Overall inflation, which was depressed last year by a notable decline in energy prices, is likely to run slightly higher this year. In particular, the central tendency of the projections of the increase in the chain-type index for personal consumption expenditures over the four quarters of both 2002 and 2003 is 1½ percent to 1¾ percent, compared with last year's pace of 1¼ percent.

Economic and Financial Developments in 2002

The pace of economic activity picked up considerably in the first half of 2002 after being about unchanged, on balance, in the second half of 2001. Final sales advanced modestly as substantial gains in household and government spending were partly off-set by weak business fixed investment and a widening gap between imports and exports. In addition, inventory liquidation slowed sharply as businesses stepped up production to bring it more closely in line with the pace of final sales. The increase in real GDP was particularly rapid early in the year, with the first-quarter gain elevated by a steep reduction in the pace of the inventory run-off, a surge in defense spending, and a weather-induced spurt in construction. Real GDP is currently estimated to have risen at an annual rate of just over 6 percent in the first quarter and appears to have posted a more moderate gain in the second quarter.

Private payroll employment declined through April, and at midyear the unemployment rate stood somewhat above its average in the fourth quarter of 2001. Core inflation—which excludes the direct influences of the food and energy sectors—remained subdued through May, held down by slack in resource utilization and continued sizable advances in labor productivity. Overall inflation was boosted by a surge in energy prices in March and April, but energy prices have since retreated a bit. Inflation expectations remained in check in the first half of this year.

As judged by declines in most interest rates over the first half of the year, financial market participants have marked down their expectation of the vigor of the economic expansion. Interest rates, along with most equity indexes, rose

noticeably toward the end of the first quarter in reaction to generally stronger-than-expected economic data. But Treasury yields and equity prices more than rolled back those increases on renewed questions about the strength of the rebound in the economy, including growing uncertainty regarding prospective corporate profits and concerns about escalating geopolitical tensions and about the governance and transparency of U.S. corporations. Private demands on credit markets moderated in the first half of the year, as businesses substantially curbed their net borrowing. For the most part, this reduction reflected further declines in business investment, a pickup in operating profits, and a return to net equity issuance. But, in addition, lenders became more cautious and selective, especially for borrowers of marginal credit quality.

Market perceptions that the recovery in the United States might turn out to be less robust than anticipated also put downward pressure on the foreign exchange value of the dollar as measured against the currencies of our major trading partners, especially during the second quarter of 2002. Central banks in some foreign countries, including Canada, tightened policy as growth firmed. The euro-area economy recovered modestly during the first half, and some brighter signs were evident in Japan. In contrast, the dollar strengthened on balance against the currencies of our other important trading partners; in particular, the Mexican peso lost ground, and financial markets reacted to political and economic problems in several South American countries.

The Household Sector

Household spending began the year on a strong note and continued to rise in the second quarter. Further gains in dis-

posable income have supported a solid underlying pace of spending. The decline in stock prices in the first half of 2002 reduced household wealth, and the debt-service burden remained high, but financial stress among households to date has been limited.

Consumer Spending

Real consumer expenditures increased at an annual rate of 3¼ percent in the first quarter. Demand for motor vehicles dropped from an extraordinary fourth-quarter pace, but purchases remained supported in part by continued large incentive packages. Outlays for other goods and services advanced smartly in the first quarter. In the second quarter, the rate of increase in consumer spending looks to have eased somewhat. Motor vehicle purchases were little changed, and most other major categories of consumer spending likely posted smaller gains than earlier in the year.

Real disposable personal income moved sharply higher in the first quarter and appears to have risen a little further in the second quarter. Wages and salaries have increased only moderately this year. But tax payments have fallen markedly; last year's legislation lowered withheld tax payments again this year, and final payments this spring on tax obligations for 2001 were substantially below last year's level (likely related at least in part to a decline in capital gains realized last year). All told, real disposable income increased at an annual rate of 8 percent between the fourth quarter of last year and May. However, household net worth has likely fallen further because the negative effect of the decline in stock prices has been only partly offset by an apparent continued appreciation in the value of residential real estate. According to the flow of funds accounts, by the end

of the first quarter, the ratio of household net worth to disposable income had reversed close to two-thirds of its run-up in the second half of the 1990s; this ratio has undoubtedly registered additional declines since the end of March. Consumer sentiment improved over the first several months of the year, with indexes from both the Conference Board and the Michigan Survey Research Center reversing last fall's sharp deterioration. However, both indexes have given up some of those gains more recently.

The personal saving rate increased in the first half of this year, as the decline in wealth over the past two years likely held down consumer spending relative to disposable personal income. In May, the saving rate stood at 3 percent of disposable income, up from an average of 1½ percent over 2001. Movements in the saving rate have been very erratic over the past year, reflecting cyclical factors, the timing of tax cuts, and adjustments in incentives to purchase motor vehicles.

Residential Investment

Real residential investment increased at an annual rate of about 15 percent in the first quarter, and the level of activity appears to have remained robust in the second quarter. The first-quarter surge was spurred partly by unseasonably warm and dry winter weather, which apparently encouraged builders to move forward some of their planned construction. At the same time, underlying housing activity has been supported by the gains in income and confidence noted above, and, importantly, by low interest rates on mortgages. In the single-family sector, starts averaged an annual rate of 1.35 million units over the first five months of the year—up 6½ percent from the already buoyant pace registered in 2001. Sales of exist-

ing homes jumped in early 2002 after moving sideways during the preceding three years; sales of new homes have also been running quite high in recent months.

Home prices have continued to move up strongly. For example, over the year ending in the first quarter, the constant-quality price index for new homes rose 5¼ percent, and the repeat-sales price index for existing homes was up 6¼ percent. Despite these increases, low mortgage rates have kept housing affordable. Rates on thirty-year conventional fixed-rate loans averaged less than 7 percent in the first half of this year, and rates on adjustable-rate loans continued the downtrend that began in early 2001. The share of median household income required to finance the purchase of a median-price house is close to its average for the past ten years and well below the levels that prevailed in the 1970s and 1980s.

In the multifamily sector, housing starts averaged 340,000 units at an annual rate over the first five months of the year, a pace close to the average of the previous five years. However, conditions in this market have deteriorated somewhat during the past year. In the first quarter, the vacancy rate for apartments spiked to the highest level since the late 1980s, and rents and property values were below year-earlier readings.

Household Finance

As it did last year, household debt appears to have expanded at more than an 8 percent annual rate during the first half of 2002. Although consumer credit (debt not secured by real estate) has increased, the bulk of the expansion in household debt has come from a sizable buildup of home mortgage debt. Refinancing activity has fallen below last year's record pace, but it has remained

strong as households have continued to extract a portion of the accumulated equity in their homes.

The aggregate household debt-service burden—the ratio of estimated minimum scheduled payments on mortgage and consumer debt to disposable personal income—although still elevated, has moved little this year. The effect of the fast pace of household borrowing on the debt burden has been offset by lower interest rates and the brisk growth in disposable income. On balance, indicators of credit quality do not suggest much further deterioration in the financial condition of households. While delinquency rates for subprime borrowers have risen further for auto loan pools and have stayed high for mortgages, mortgage delinquencies for all borrowers have changed little, and delinquencies on credit card accounts at banks have not risen significantly since the mid-1990s. The number of personal bankruptcy filings also has essentially moved sideways this year, albeit at a historically high rate. Lenders have apparently reacted to these indicators of household credit quality by tightening standards for consumer loans, as reported on the Federal Reserve's Senior Loan Officer Opinion Surveys. Standards for mortgage loans, however, have changed little, and, on the whole, credit appears to have remained readily available to the household sector.

The Business Sector

Spending in the business sector appears to have bottomed out recently, but a strong recovery has not yet taken hold. Real business fixed investment, which declined sharply last year, fell again in the first quarter, but seems to have firmed in the second quarter. Excess capacity in some sectors and uncertainty about the pace of the economic expan

sion are likely still restraining equipment demand, but rising output, improving corporate profits, and continuing technological advances appear to be working in the opposite direction. Many businesses have worked off their excess stocks, and the substantial inventory runoff that began in the first quarter of last year seems to be drawing to a close. The combination of higher profits and weak investment spending has led to a drop in borrowing by the nonfinancial business sector thus far this year.

Fixed Investment

Real business spending on equipment and software (E&S) was little changed in the first quarter after having dropped sharply last year. In the high-tech category, real expenditures moved up in the first quarter after a double-digit decline in 2001. Outlays for computers posted large gains in inflation-adjusted terms in both the fourth and first quarters; many businesses apparently postponed computer replacement over much of last year but now seem to be taking advantage of ongoing technological progress and the associated large declines in prices. In contrast, real expenditures for communications equipment were little changed in the first quarter after having plunged by one-third during 2001. Excess capacity in the provision of telecom services is continuing to weigh heavily on the demand for communications equipment. Business outlays for software edged down in real terms in the first quarter.

Real spending on transportation equipment dropped in the first quarter. Outlays for aircraft shrank dramatically as the reduction in orders after last year's terrorist attacks began to show through to spending. Outlays for motor vehicles fell sharply early in the year owing to weakness in the market for

heavy trucks and a reported reduction in fleet sales to rental companies related to the downturn in air travel. Real E&S spending outside of the high-tech and transportation categories moved up in the first quarter after sizable declines in the three preceding quarters. This pattern probably reflects the deceleration and subsequent acceleration in business output, which is an important determinant of spending in this category.

In the second quarter, real E&S spending likely rose, borne along by increases in sales and a rebound in profits. Incoming data on orders and shipments suggest that real outlays for high-tech equipment advanced and that expenditures for other nontransportation equipment also rose. Spending on aircraft probably contracted further, but orders for heavy trucks surged this spring, as some companies reportedly shifted purchases forward in anticipation of stricter emissions requirements that are scheduled to take effect in the fall. Because of lags in the ordering and building of new equipment, the provision for partial expensing in the Job Creation and Worker Assistance Act passed by the Congress in early March will likely bolster investment spending gradually.

Real outlays for nonresidential structures registered a very large decline in the first quarter after having slipped appreciably in 2001. Outlays for office and industrial structures, lodging facilities, and public utilities dropped substantially. Vacancy rates for offices jumped in the first quarter to their highest level since the mid-1990s; in addition, rents and property values were noticeably below their levels one year earlier. Vacancy rates have risen dramatically in the industrial sector as well. Construction of drilling structures also contracted sharply in the first quarter, thereby continuing the downtrend that

began in the middle of last year in the wake of the decline in the prices of oil and natural gas from their peaks a few quarters earlier. Incoming data point to further declines in spending for nonresidential structures in the second quarter.

Inventory Investment

Businesses ran off inventories at an annual rate of nearly \$30 billion in the first quarter. This drawdown followed a much larger liquidation—at an annual rate of roughly \$120 billion—in the fourth quarter, and the associated step-up in production contributed almost $3\frac{1}{2}$ percentage points to the first-quarter increase in real GDP. Book-value data on inventories outside of the motor vehicle sector point to a further slackening of the drawdown more recently. Since last fall, inventory-sales ratios have more than reversed the run-up that occurred as the economy softened. Currently, inventories do not appear to be excessive for the economy as a whole, although industry reports suggest that overhangs persist in a few areas. In contrast to inventories in other sectors, motor vehicle stocks increased in the first half of this year, as automakers boosted production in order to rebuild stocks that had been depleted by the robust pace of sales in late 2001. Motor vehicle inventories were no longer lean as of the middle of this year.

Corporate Profits and Business Finance

The economic profits of the U.S. nonfinancial corporate sector grew 5 percent at a quarterly rate in the first quarter of this year after a surge of $13\frac{3}{4}$ percent in the fourth quarter of 2001. The corresponding ratio of profits to sector GDP has edged up to $8\frac{3}{4}$ percent, reversing a portion of the steep decline registered

over the preceding few years but remaining well below its peak in the mid-1990s. Early indicators point to further profit gains in the second quarter.

The rise in profits since late 2001, combined with weak capital expenditures and low share repurchase and cash-financed merger activities, have helped keep nonfinancial corporations' need for external funds (the financing gap) below the average of last year. In addition, corporations have turned to the equity markets to raise a portion of their needed external funds: Corporations have sold more new equity than they have retired this year—the first period of net equity issuance in nearly a decade. They have used much of these funds to repay debt. As a result, the growth of nonfinancial business debt appears to have slowed considerably in the first half of 2002 after rapid gains in preceding years.

Much of the growth in nonfinancial business debt this year has been concentrated in the corporate bond market (though issuance has not been quite so strong as in 2001), as firms have taken advantage of historically attractive yields. Many corporations have used the proceeds of their bond offerings to pay down commercial and industrial (C&I) loans at banks and commercial paper. In recent months, however, net corporate bond issuance has slowed, and the contraction in short-term funding appears to have moderated.

About one fifth of total bond offerings over the first half of 2002 have been in the speculative-grade market. This fraction is about unchanged from last year but still well below the proportions seen in the latter half of the 1990s, and speculative-grade bond offerings have been concentrated in the higher quality end of that market. Troubles in the two largest sectors of the market—telecommunications and energy—have

continued to weigh on issuance this year.

Although many businesses have apparently substituted bond debt for shorter-term financing by choice, others, especially investment-grade firms in the telecommunications sector, have done so by necessity: They were pushed out of the commercial paper market or otherwise encouraged by investors and credit-rating agencies to curb their reliance on short-term sources of financing to limit the associated rollover risk. Indeed, commercial paper outstanding ran off sharply in February and early March, when several companies that were perceived as having questionable accounting practices were forced to tap bank lines to pay off maturing commercial paper. With lower-quality borrowers leaving the market in the face of elevated risk spreads, commercial paper outstanding shrank nearly 30 percent in the first half of the year after a sizable decline in 2001.

Some firms that exited the commercial paper market turned, at least temporarily, to banks as an alternative. Nonetheless, on net, commercial and industrial loans at banks have declined this year, reflecting borrowers' preference for lengthening the maturity of their liabilities and the overall reduction in the demand for external financing, noted earlier. To a more limited extent, a somewhat less receptive lending environment probably also weighed on business borrowing at banks. In particular, banks continued to tighten terms and standards on C&I loans on net over the first half of this year, although the fraction of banks that reported having done so fell noticeably in the Federal Reserve's Senior Loan Officer Opinion Survey in April. Banks have also imposed stricter underwriting standards and higher fees and spreads on backup lines of credit for commercial paper over

most of 2001 and early 2002; banks cited increased concerns about the credit-worthiness of issuers and a higher likelihood of lines being drawn down.

Indicators of credit quality still point to some trouble spots in the nonfinancial business sector. The ratio of net interest payments to cash flow has trended up since the mid-1990s for the nonfinancial corporate sector as a whole, with increases most pronounced for weaker speculative-grade firms. The default rate on outstanding corporate bonds has remained quite elevated by historical standards. By contrast, although the delinquency rate on C&I loans at banks has risen a bit further this year, it has stayed well below rates observed in the early 1990s. In part, however, this performance may be attributable to more aggressive loan sales and charge-offs than in the past. It may be that problems have risen more for large firms than for smaller ones, as the increase in C&I loan delinquencies over recent quarters was limited to large banks, where loans to larger firms are more likely to be held. Credit rating downgrades continued to outpace upgrades by a substantial margin, as was the case in the last quarter of 2001. Spreads of corporate bond yields over those on comparable Treasuries have remained high by historical standards and have risen considerably across the credit-quality spectrum for telecom firms. Corporate bond spreads also widened, though to a much smaller extent, for a few highly rated firms in other industries owing to concerns about their accounting practices.

After having surged late last year, growth in commercial mortgage debt dropped back in the first half of this year amid a sharp decline in construction activity. Issuance of commercial mortgage backed securities (CMBS), a major component of commercial mortgage finance, has been especially weak.

Nonetheless, investor appetite for CMBS has apparently been strong, as yield spreads have narrowed this year. Delinquency rates on CMBS pools, which had been rising during the early part of the year, seem to have stabilized in recent months, and delinquency rates on commercial mortgages held by banks and insurance companies have remained near their historical lows.

The low level of risk spreads for CMBS suggests that concerns about terrorism insurance have not been widespread in the market for commercial mortgages, and responses to the Federal Reserve's Senior Loan Officer Opinion Survey in April indicate that most domestic banks required insurance on less than 10 percent of the loans being used to finance high-profile or heavy-traffic properties. Nonetheless, that fraction was much higher at a few banks, and some credit-rating agencies have placed certain CMBS issues—mainly those backed by high-profile properties—on watch for possible downgrade because of insufficient terrorism insurance.

The Government Sector

The federal unified budget moved into deficit in fiscal 2002 after having posted a substantial surplus in fiscal 2001. The deterioration reflects a sharp drop in tax collections (resulting in part from the effects of the economic downturn, the decline in stock prices, and legislated tax cuts) and unusually large supplemental spending measures. As a consequence, federal debt held by the public increased in the first half of the year after rapid declines during the previous several years. The budgets of states and localities have also been strained by economic events, and many state and local governments have taken steps to relieve these pressures.

Federal Government

Over the first eight months of fiscal year 2002 (October through May) the unified budget recorded a deficit of \$147 billion, compared with a surplus of \$137 billion over the same period of fiscal year 2001. Nominal receipts were 12 percent lower than during the same period of fiscal 2001, and daily Treasury data since May suggest that receipts have remained subdued. Individual tax payments are running well below last year's pace; this weakness reflects general macroeconomic conditions, the legislated changes in tax policy, and the decline in stock prices and consequent reduction in capital gains realizations in 2001. The extent of the weakness was not widely anticipated—this spring's nonwithheld tax payments, which largely pertain to last year's liabilities, generated the first substantial negative April surprise in revenue collections in a number of years. Corporate tax payments have also dropped from last year's level because of weak profits and the business tax provisions included in the Job Creation and Worker Assistance Act of 2002.

Nominal federal outlays during the first eight months of fiscal 2002 were 10 percent higher than during the same period last year; excluding a drop in net interest payments owing to the current low level of interest rates, outlays were up 14 percent. The rate of increase was especially large for expenditures on income security, health, and national and homeland defense. Real federal expenditures for consumption and gross investment, the part of government spending that is a component of real GDP, rose at an annual rate of roughly 11½ percent in the first calendar quarter of 2002 as defense spending surged. The available data suggest that real federal expenditures for consumption and gross invest

ment increased further in the second quarter.

Federal saving, which equals the unified budget surplus adjusted to conform to the accounting practices followed in the national income and product accounts, has fallen considerably since the middle of last year. Net federal saving, which accounts for the depreciation of government capital, turned negative in the first quarter of this year. At the same time, the net saving of households, businesses, and state and local governments has moved up from its trough of last year. On balance, net national saving as a share of GDP has held roughly steady in the past several quarters after having moved down sharply since 1999.

Federal debt held by the public, which had been declining rapidly over the past few years, grew at a 3¼ percent annual rate in the first quarter of 2002 and is estimated to have increased considerably more in the second quarter. The ratio of federal government debt held by the public to nominal GDP fell only slightly in the first quarter following several years of steep declines. In response to the changing budget outlook, the Treasury suspended its buy-back operations through mid-August and increased the number of auctions of new five-year notes and ten-year indexed securities.

During the second quarter, the Treasury took unusual steps to avoid breaching its statutory borrowing limit of \$5.95 trillion. In early April, it temporarily suspended investments in the Government Securities Investment Fund—the so-called G-fund of the Federal Employees' Retirement System. Incoming individual nonwithheld tax receipts later that month allowed the Treasury to reinvest the G-fund assets with an adjustment for interest. Late in May, the Treasury declared a debt ceiling emergency, which allowed it to

disinvest a portion of the Civil Service Retirement and Disability Fund, in addition to the G-fund, to keep its debt from breaching the statutory limit. At the time of the declaration, the Treasury indicated that disinvestments from these two funds, combined with other stopgap measures, would be sufficient to keep it from breaching the debt ceiling only through late June. The Congress approved legislation raising the statutory borrowing limit to \$6.4 trillion on June 27.

State and Local Governments

Slow growth of revenue resulting from the economic downturn has also generated a notable deterioration in the fiscal position of many state and local governments over the past year. In response, many states and localities have been trimming spending plans and, in some cases, raising taxes and fees. In addition, many states have been dipping into rainy-day and other reserve funds. Together, these actions are helping to move operating budgets toward balance.

Real consumption and investment spending by state and local governments rose at an annual rate of 4¼ percent in the first quarter, but available data suggest that outlays were little changed in the second quarter. Outlays for consumption items seem to have held to only moderate increases in the first half of this year, a step-down from last year's more robust gains. Investment spending rose briskly in the first quarter and retreated in the second quarter; this pattern largely reflects the contour of construction expenditures, which were boosted early in the year by unseasonably warm and dry weather.

Debt growth in the state and local government sector has slowed so far in 2002 from last year's very rapid pace. States and localities have continued

to borrow heavily in bond markets to finance capital expenditures and to refund existing obligations, including short-term debt issued last year. The overall credit quality of the sector has remained high despite the fiscal stresses associated with the recent economic slowdown, and yield ratios relative to Treasuries have changed little this year, on net.

The External Sector

Stronger growth in the United States contributed to a widening of U.S. external deficits in the first quarter of this year. The United States has continued to receive large net private financial inflows in 2002, but both inflows and outflows have been at lower levels than in recent years.

Trade and the Current Account

The U.S. deficit on trade in goods and services widened about \$27 billion in the first quarter, to nearly \$380 billion at an annual rate, as a surge in imports overwhelmed a slower expansion of exports. U.S. net investment income decreased \$33 billion to a slight deficit position after recording modest surpluses in all four quarters last year. The U.S. deficit on other income and transfers widened about \$9 billion, to nearly \$70 billion at an annual rate. The U.S. current account, which is the sum of the above, recorded a deficit in the first quarter of \$450 billion at an annual rate, 4.3 percent of GDP and nearly \$70 billion larger than the deficit in the fourth quarter of 2001.

Real exports of goods and services increased 3 percent at an annual rate in the first quarter, after five quarters of decline. This improvement resulted from a very large step-up in service receipts, as payments by foreign travelers moved

back up to near pre-September 11 levels and other private service receipts increased as well. The real value of exported goods contracted in the first quarter, but at only a 3½ percent annual rate. Goods exports had declined much more steeply in the previous three quarters under the effects of slower output growth abroad, continued appreciation of the dollar, and plunging global demand for high-tech products. The better performance in the first quarter of 2002 included a markedly slower rate of decline of machinery exports and a small increase in exported aircraft. While exports of computers continued to fall, exports of semiconductors rose for the first time in nearly two years. Export prices continued to edge down in the first quarter.

U.S. real imports of goods and services expanded in the first quarter at an 8 percent annual rate. As was the case with exports, a substantial part of the increase came from larger service payments related to increased travel abroad by U.S. residents. Reflecting the rebound in U.S. economic activity, imports of real goods rose at about a 4 percent pace in the first quarter of 2002, the first increase in four quarters, as a decline in oil imports was more than offset by a substantial increase in imports of other goods. Growth of non-oil imports was led by increased imports of computers, autos, and consumer goods. The price of imported non-oil goods declined at about a 2¼ percent annual rate, in line with its trend in 2001; prices fell for a wide range of capital goods and industrial supplies.

Declining demand during the second half of last year put the price of West Texas intermediate (WTI) crude oil in December 2001 at around \$19 per barrel, its lowest level since mid-1999. Unusually warm winter weather in the United States—along with low prices—

helped keep the value of oil imports at a very low level in the first quarter. But oil prices began to rise in February and March as global economic activity picked up and as OPEC reduced its production targets in an agreement with five major non-OPEC producers (Angola, Mexico, Norway, Oman, and Russia). Oil prices remained firm in the second quarter around \$26 per barrel amid turmoil in the Middle East, a one-month suspension of oil exports by Iraq, disruption of supply from Venezuela, and increasing global demand. The price of gold also has reacted to heightened geopolitical tensions and moved up more than 13 percent over the first half of 2002.

The Financial Account

The shift in the pattern of U.S. international financial flows observed in the second half of 2001 continued into the first quarter of this year. Influenced by increased economic uncertainty, questions about corporate governance and accounting, and sagging share prices, foreign demand for U.S. equities remained weak. Foreign net purchases of U.S. bonds slowed; although purchases of corporate bonds continued to be robust, demand for agency and Treasury bonds slackened. Nonetheless, because U.S. net purchases of foreign securities also fell off, the contribution of net inflows through private securities transactions to financing the U.S. current account deficit remained at a high level. Preliminary and incomplete data for the second quarter of 2002 suggest a continuation of this pattern.

Slower economic activity, both in the United States and abroad, and reduced merger activity caused direct investment inflows and outflows to drop sharply late last year. Direct investment inflows, which were strong through the first half

of 2001, plummeted in the second half. U.S. direct investment abroad stayed at a high level through the third quarter but then fell sharply. Both inflows and outflows remained weak in the first quarter of 2002. Available data point to a pickup of capital inflows from official sources during the first half of 2002, as the recent weakening of the foreign exchange value of the dollar prompted some official purchases.

The Labor Market

Labor markets weakened further in the first few months of the year; they now appear to have stabilized but have yet to show signs of a sustained and substantial pickup. Growth of nominal compensation slowed further in the first part of the year after having decelerated in 2001. With productivity soaring in recent quarters, unit labor costs have fallen sharply.

Employment and Unemployment

After having fallen an average of nearly 160,000 per month in 2001, private payroll employment declined at an average monthly rate of 88,000 in the first quarter and was about unchanged in the second quarter. Employment losses in the manufacturing sector have moderated in recent months, and employment in the help supply services industry—which provides many of its workers to the manufacturing sector—has increased. These two categories, which were a major locus of weakness last year, gained an average of 11,000 jobs per month over the past three months, compared with an average loss of 76,000 jobs per month in the first quarter of the year and 163,000 jobs per month over 2001.

Apart from manufacturing and help supply, private payrolls fell 12,000 per

month in the first quarter and declined 8,000 per month in the second quarter. In the second quarter, hiring in construction fell by the same amount as in the first quarter. Retail employment declined somewhat after rising a bit in the first quarter, and the employment gain in services other than help supply was slightly smaller than in the first quarter. However, employment losses in several other categories abated in the second quarter.

The unemployment rate in the second quarter averaged 5.9 percent, up from a reading of 5.6 percent in both the fourth quarter of last year and the first quarter of this year. The higher unemployment rate in recent months is consistent with weak employment gains, and it probably was boosted a bit by the federal temporary extended unemployment compensation program. Because this program provides additional benefits to individuals who have exhausted their regular state benefits, it encourages unemployed individuals to be more selective about taking a job offer and likely draws some people into the labor force to become eligible for these benefits.

Productivity and Labor Costs

Labor productivity has increased rapidly in recent quarters. After rising at an average annual rate of around 1 percent in the first three quarters of last year, output per hour in the nonfarm business sector jumped at an annual rate of 5½ percent in the fourth quarter of last year and 8½ percent in the first quarter of this year. Productivity likely continued to rise in the second quarter, albeit at a slower pace. Labor productivity often rises briskly in the early stages of economic recoveries, but what makes the recent surge unusual is that it followed a period of modest increases, rather than declines. In earlier postwar

recessions, productivity deteriorated as firms retained more workers than may have been required to meet reduced production needs. The strength in productivity growth around the beginning of this year suggests that employers may have doubted the durability of the pickup in sales and, therefore, deferred new hiring until they became more convinced of the vigor of the expansion. Smoothing through the recent cyclical fluctuations, productivity advanced at an average annual rate of close to $3\frac{1}{2}$ percent between the fourth quarter of 2000 and the first quarter of this year. Although this pace is unlikely to be sustained, it further bolsters the view that the underlying trend in productivity has moved up since the first half of the 1990s.

The employment cost index (ECI) for private nonfarm businesses increased just under 4 percent during the twelve months ended in March of this year, after rising about $4\frac{1}{4}$ percent in the preceding twelve-month period. The recent small step-down likely reflects the lagged effects of the greater slack in labor markets and lower consumer price inflation. The wages and salaries component and the benefits component of the ECI both decelerated by $\frac{1}{4}$ percentage point relative to the preceding year. The slowing in benefits costs occurred despite a $2\frac{1}{2}$ percentage point pickup in health insurance cost inflation, to a $10\frac{1}{2}$ percent rate of increase.

Nominal compensation per hour in the nonfarm business sector—an alternative measure of compensation based on the national income and product accounts—rose $3\frac{1}{2}$ percent during the year ending in the first quarter. This rate represented a sharp slowing from the $7\frac{1}{4}$ percent pace recorded four quarters earlier, which likely had been boosted significantly by stock options; stock options are included in this measure at

their value when exercised. The deceleration in this measure of compensation is much more dramatic than in the ECI because the ECI does not include stock options. The moderate increase in nominal compensation combined with the spike in productivity growth led unit labor costs to drop at an annual rate in excess of 5 percent in the first quarter, after a decline of 3 percent in the fourth quarter.

Information about the behavior of compensation in more recent months is limited. Readings on average hourly earnings of production or nonsupervisory workers suggest a further deceleration in wages: The twelve-month change in this series was $3\frac{1}{4}$ percent in June, $\frac{3}{4}$ percentage point below the change for the preceding twelve months.

Prices

A jump in energy prices in the spring pushed up overall inflation in the first part of 2002, but core inflation remained subdued. The chain-type price index for personal consumption expenditures (PCE) increased at an annual rate of $2\frac{1}{4}$ percent over the first five months of the year, compared with a rise of just over 1 percent for the twelve months of 2001. Core PCE prices rose at an annual rate of just over $1\frac{1}{2}$ percent during the first five months of this year, which was the pace recorded for 2001.

Energy prices rose sharply in March and April but have turned down more recently. Gasoline prices spiked in those two months, as crude oil costs moved higher and retail gasoline margins surged. Since April, gasoline prices have, on balance, reversed a small part of this rise. Natural gas prices stayed low in early 2002 against a backdrop of very high inventories; however, these prices have, on average, moved higher in more recent months. Electricity prices

have dropped this year, a move reflecting deregulation of residential prices in Texas as well as lower prices for coal and natural gas, which are used as inputs in electricity generation. All told, energy prices increased at an annual rate of 20 percent over the first five months of the year, reversing a little more than half of last year's decline.

Consumer food prices increased at an annual rate of 1½ percent between December and May. A poor winter crop of vegetables pushed up prices early this year, but supplies subsequently increased and prices came down. In addition, consumer prices for meats and poultry, which began to weaken late last year, remained subdued this spring.

Core inflation was held down over the first five months of the year by continued softness in goods prices, including a significant decline in motor vehicle prices. Non-energy services prices continued to move up at a faster pace than core goods prices, although the very sizable increases in residential rent and the imputed rent of owner-occupied housing have eased off in recent months. The rate of increase in core consumer prices has been damped by several forces. One is the lower level of resource utilization that has prevailed over the past year. Core price increases were also held down by declines in non-oil import prices and the lagged effects of last year's decline in energy prices on firms' costs. In addition, inflation expectations have stayed in check: The Michigan Survey Research Center index of median expected inflation over the subsequent year has rebounded from last fall's highly unusual tumble, but its average in recent months of 2¾ percent is below the average reading of 3 percent in 2000.

Like core PCE inflation, inflation measured by the core consumer price index (CPI) has remained subdued.

However, the levels of inflation corresponding to these two alternative measures of consumer prices are markedly different: Core PCE inflation was about 1½ percent over the twelve months ended in May, while core CPI inflation was about 2½ percent. This gap is more than ½ percentage point larger than the average difference between these inflation measures during the 1990s (based on the current methods used to construct the CPI instead of the official published CPI). The larger differential arises from several factors. First, the PCE price index (unlike the CPI) includes several components for which market-based prices are not available, such as checking services provided by banks without explicit charges; the imputed prices for these components have increased considerably less rapidly in the past couple of years than previously. Second, the substantial acceleration in shelter costs since the late 1990s has provided a larger boost to the CPI than to the PCE price index because housing services have a much larger weight in the CPI. Third, PCE medical services prices—which are largely based on producer price indexes rather than information from the CPI—have increased more

Alternative Measures of Price Change

Percent

Price measure	2000 to 2001	2001 to 2002
<i>Chain-type</i>		
Gross domestic product	2.3	1.4
Gross domestic purchases	2.2	.7
Personal consumption expenditures	2.4	.7
Excluding food and energy ...	1.9	1.3
<i>Fixed-weight</i>		
Consumer price index	3.4	1.2
Excluding food and energy ...	2.7	2.5

NOTE. Changes are based on quarterly averages and are measured from Q1 to Q1.

slowly than CPI medical services prices over the past couple of years.

The chain-type price index for gross domestic purchases—which captures prices paid for consumption, investment, and government purchases—rose at an annual rate of roughly 1 percent in the first quarter of 2002, putting the four-quarter change at $\frac{3}{4}$ percent. This pace represents a marked slowing relative to the $2\frac{1}{4}$ percent rise in the year-earlier period, owing to both a drop in energy prices (as the decline in the second half of 2001 was only partly offset by the increase this spring) and more rapid declines in the prices of investment goods such as computers. The GDP price index rose at an annual rate of $1\frac{1}{4}$ percent in the first quarter and was up almost $1\frac{1}{2}$ percent relative to the first quarter of last year. The GDP price index decelerated somewhat less than the index for gross domestic purchases, in part because declining oil prices receive a smaller weight in U.S. production than in U.S. purchases.

U.S. Financial Markets

Market interest rates have moved lower, on net, since the end of 2001, as market participants apparently viewed the ongoing recovery as likely to be less robust than they had been expecting late last year. Such a reassessment of the strength of economic activity and associated business earnings, along with worries about the accuracy of published corporate financial statements, weighed heavily on major equity indexes, which dropped 12 to 31 percent. The debt of the nonfinancial sectors expanded at a moderate pace, but lenders have imposed somewhat firmer financing terms, especially on marginal borrowers.

Households' preferences for safer assets, which had intensified following last year's terrorist attacks, diminished

early in 2002, as evidenced by strong flows into both equity and bond mutual funds. Equity fund inflows lessened in May and turned into outflows in June, however, as concerns about the strength and accuracy of corporate earnings reports mounted. But the net shift toward longer-term assets this year appears to have contributed to a significant deceleration in M2, which has also been slowed by reduced mortgage refinancing activity and a leveling out of the opportunity cost of holding M2 assets.

Interest Rates

Uncertain about the robustness of the economic recovery, the FOMC opted to retain its accommodative policy stance over the first half of 2002, leaving its target for the federal funds rate at $1\frac{3}{4}$ percent. Market participants, too, have apparently been unsure about the strength of the recovery, and shifts in their views of the economic outlook have played a significant role in movements in market interest rates so far this year. During the first quarter of the year, news on aggregate spending and output came in well above expectations, and Treasury coupon yields rose between 35 and 65 basis points. The second quarter, however, brought renewed concerns about the economic outlook, compounded by sharp declines in equity prices. In recent months, Treasury coupon yields have more than reversed their earlier increases and are now 40 to 50 basis points below their levels at the end of 2001.

Survey measures of long-term inflation expectations have been quite stable this year, implying that real rates changed about as much as nominal rates. The spread between nominal and inflation-indexed Treasury yields, another gauge of investors' expectations about inflation, has moved over a rela-

tively wide range since the end of 2001, but, on net, it has edged up only slightly. Even the small widening of this spread likely overstates a shift in sentiment regarding future price pressures in the economy. In mid-February, the Treasury reassured investors that it would continue to issue indexed debt, an announcement that was reinforced in May when the Treasury made public its decision to add one more auction of ten-year indexed notes to its annual schedule of offerings. This reaffirmation of the Treasury's commitment to issue indexed securities may have pulled indexed yields down by bolstering the actual and expected liquidity of the market.

Yields on longer-maturity bonds issued by investment-grade corporations have stayed close to their lows of the past ten years, but speculative-grade yields remained near the high end of their range since the mid-1990s. Spreads relative to Treasury yields have widened most recently for both investment- and speculative-grade bonds as concerns about corporate earnings reporting intensified. Such concerns have also played a prominent role in the commercial paper market, especially early this year, when investors, who had become increasingly worried about accounting scandals, imposed high premiums on lower-quality borrowers. Subsequently, however, many such borrowers either left the commercial paper market or reduced their reliance on commercial paper financing, and the average yield spread on second-tier commercial paper over top-tier paper has narrowed considerably.

Interest rates on car loans have changed little, on net, this year, and mortgage rates have moved lower. However, according to the Federal Reserve's Survey of Terms of Business Lending, interest rates on C&I loans at domestic

banks have moved a bit higher this year, as banks have raised the spread of the average interest rate on business loans over the target federal funds rate. The wider spread reflects higher risk premiums on C&I loans to lower-quality borrowers; spreads for higher-quality borrowers have changed little on net.

Equity Markets

After falling in January in reaction to pessimistic assessments of expected business conditions over the coming year—especially in the tech sector—stock prices rebounded smartly toward the end of the first quarter on stronger-than-expected macroeconomic data. Most first-quarter corporate earnings releases met or even exceeded market participants' expectations, but many firms included sobering guidance on sales and earnings prospects in those announcements. These warnings, combined with mounting questions about corporate accounting practices, worries about threats of domestic terrorism, and escalating geopolitical tensions, have taken a considerable toll on equity prices since the end of March. On net, all major equity indexes are down substantially so far this year. Share prices in the telecom and technology sectors have performed particularly poorly, and, on July 10, the Nasdaq was 31 percent lower than at the end of 2001. The Wilshire 5000, a broad measure of equity prices, fell 18½ percent over the same period, returning to a level 40 percent below its historical peak reached in March 2000.

Declining share prices pulled down the price-earnings ratio for the S&P 500 index (calculated using operating profits expected over the coming year). Nonetheless, the ratio remained elevated relative to its typical values before the mid-1990s, suggesting that investors

continued to anticipate rapid long-term growth in corporate profits.

Monetary Policy Instruments

At its March 19 meeting, the FOMC assessed the priorities, given limited resources, it should attach to further studies of the feasibility of outright purchases for the System Open Market Account (SOMA) of mortgage-backed securities guaranteed by the Government National Mortgage Association (GNMA-MBS) and the addition of foreign sovereign debt securities to the list of collateral eligible for U.S. dollar repurchase agreements by the System. As noted in the February and July 2001 Monetary Policy Reports to the Congress, such alternatives could prove useful if outstanding Treasury debt obligations were to become increasingly scarce relative to the necessary growth in the System's portfolio, and the FOMC had requested that the staff explore these options. Noting that many of the staff engaged in these studies were also involved in contingency planning, which had been intensified after the September 11 attacks, the FOMC decided to give the highest priority to such planning. Federal budgetary developments over the past year meant that constraints on Treasury debt supply would not become as pressing an issue as soon as the FOMC had previously thought. Still, given the inherent uncertainty of budget forecasts, the likely significant needs for large SOMA operations in coming years, and the lead times required to implement new procedures, the FOMC decided that the exploratory work on the possible addition of outright purchases of GNMA-MBS should go forward once it was possible to do so without impeding contingency planning efforts.

The Federal Reserve also addressed possible changes to the structure of its discount window facility. On May 17, 2002, the Federal Reserve Board released for public comment a proposed amendment to the Board's Regulation A that would substantially revise its discount window lending procedures. Regulation A currently authorizes the Federal Reserve Banks to operate three main discount window programs: adjustment credit, extended credit, and seasonal credit. The proposed amendment would establish two new discount window programs called primary credit and secondary credit as replacements for adjustment and extended credit. The Board also requested comment on the continued need for the seasonal program but did not propose any substantive changes to the program.

The proposal envisions that primary credit would be available for very short terms, ordinarily overnight, to depository institutions that are in generally sound financial condition at an interest rate that would usually be above short-term market interest rates, including the federal funds rate; currently, the discount rate is typically below money market interest rates. The requirement that only financially sound institutions should have access to primary credit should help reduce the stigma currently associated with discount window borrowings. In addition, because the proposed discount rate structure will eliminate the incentive that currently exists for depository institutions to borrow to exploit a positive spread between short-term money market rates and the discount rate, the Federal Reserve will be able to reduce the administrative burden on borrowing banks. As a result, depository institutions should be more likely to turn to the discount window when money markets tighten significantly, enhancing the window's ability to serve

as a marginal source of reserves for the overall banking system and as a backup source of liquidity for individual depository institutions. Secondary credit would be available, subject to Reserve Bank approval and monitoring, for depository institutions that do not qualify for primary credit.

The proposed amendment is intended to improve the functioning of the discount window and the money market more generally. Adoption of the proposal would *not* entail a change in the stance of monetary policy. It would not require a change in the FOMC's target for the federal funds rate and would not affect the overall level of market interest rates. The comment period on the proposal ends August 22, 2002. If the Board then votes to revise its lending programs, the changes likely would take place several months later.

Debt and Financial Intermediation

Growth of the debt of domestic nonfinancial sectors other than the federal government is estimated to have slowed during the first half of 2002, as businesses' needs for external funds declined further owing to weak capital spending, continuing inventory liquidation, and rising profits. In addition, growth in consumer credit moderated following a surge in auto financing late last year. On balance, nonfederal debt expanded at a 5½ percent annual rate in the first quarter of the year after growing 7½ percent in 2001. In contrast, the stock of federal debt held by the public, which had contracted slightly in 2001, grew 3¼ percent at an annual rate in the first quarter and expanded further in the second quarter, as federal tax revenues fell short of expectations and government spending increased substantially. The sharp rise in federal debt outstanding followed a few years of declines.

The proportion of total credit supplied by depository institutions over the first half of the year is estimated to have been near its lowest value since 1993. Although banks have continued to acquire securities at about the same rapid pace observed in 2001, the shift in household and business preferences toward longer-term sources of credit greatly reduced the demand for bank loans. As noted, banks' loans to businesses ran off considerably, as corporate borrowers turned to the bond market in volume to take advantage of favorable long-term interest rates. Growth of real estate loans slowed markedly this year, partly as outlays for nonresidential structures declined, but growth of consumer loans was fairly well maintained. With some measures of credit quality in the business and household sectors still pointing to pockets of potential strain, loan-loss provisions remained high at banks and weighed on profits. Nonetheless, bank profits in the first quarter stayed in the elevated range observed over the past several years, and virtually all banks—98 percent by assets—remained well capitalized.

Among nondepository financial intermediaries, government-sponsored enterprises (GSEs) curtailed their net lending (net acquisition of credit market instruments) during the first quarter of the year, but available data suggest that insurance companies more than made up for the shortfall. The GSEs appeared to continue to restrain their net lending in the second quarter, in part as yields on mortgage-backed securities, which are a major component of their holdings of financial assets, compared less favorably to yields on the debt they issue. Net lending by insurance providers in the first quarter was especially strong among life insurance companies, which experienced a surge in sales late last year in the aftermath of the Septem-

ber 11 terrorist attacks. Net lending by the GSEs amounted to 14 percent of the net funds raised by both the financial and nonfinancial sectors in the credit markets in the first quarter of 2002, and the figure for insurance companies was 10 percent; depository credit accounted for 13 percent of all net borrowing over the same period.

Monetary Aggregates

The broad monetary aggregates decelerated considerably during the first half of this year. M2 rose 4½ percent at an annual rate after having grown 10¼ percent in 2001. Several factors contributed to the slowing in M2. Mortgage refinancing activity, which results in prepayments that temporarily accumulate in deposit accounts before being distributed to investors in mortgage-backed securities, moderated over the first half of this year. In addition, the opportunity cost of holding M2 assets has leveled out in recent months, so the increase in this aggregate has been more in line with income. Because the rates of return provided by many components of M2 move sluggishly, the rapid declines in short-term market interest rates last year temporarily boosted the attractiveness of M2 assets. In recent months, however, yields on M2 components have fallen to more typical levels relative to short-term market interest rates. Lastly, precautionary demand for M2, which was high in the aftermath of last year's terrorist attacks, seems to have unwound in 2002, with investors shifting their portfolios back toward longer-term assets such as equity and bond mutual funds. With growth in nominal GDP picking up significantly this year, M2 velocity—the ratio of nominal GDP to M2—rose about 1½ percent at an annual rate in the first quarter of 2002, in sharp contrast to the

large declines registered throughout 2001.

M3—the broadest monetary aggregate—grew 3½ percent at an annual rate through the first six months of the year after rising 12¾ percent in 2001. Most of this deceleration, apart from that accounted for by M2, resulted from the weakness of institutional money market funds, which declined slightly, after having surged about 50 percent last year. Yields on these funds tend to lag market yields somewhat, and so the returns on the funds, like those on many M2 assets, became less attractive as their yields caught up with market rates.

International Developments

Signs that economic activity abroad had reached a turning point became clearer during the first half of 2002, but recovery has been uneven and somewhat tepid on average in the major foreign industrial countries. Improving conditions in the high-tech sector have given a boost to some emerging-market economies, especially in Asia, but several Latin American economies have been troubled by a variety of adverse domestic developments. Foreign financial markets became increasingly skittish during the first half of the year amid worries about global political and economic developments, including concerns about corporate governance and accounting triggered by U.S. events. Oil prices reversed a large part of their 2001 decline.

During the first half, monetary authorities in some foreign countries where signs of recovery were most evident and possible future inflation pressures were becoming a concern—Canada, Australia, New Zealand, and Sweden, among others—began to roll back a portion of last year's easing, raising expectations that policy tightening

might become more widespread. However, policy was held steady at the European Central Bank (ECB) and the Bank of England. The Bank of Japan (BOJ) maintained short-term interest rates near zero and kept balances of bank deposits at the BOJ at elevated levels. Yield curves in most foreign industrial countries became a bit steeper during the first quarter as long-term rates rose in reaction to news suggesting stronger U.S. growth and improving prospects for global recovery. Since then, long-term rates have edged lower, on balance, in part as investors shifted out of equity investments. Foreign equities performed well in most countries early in the year, but share prices in many countries have fallen since early in the second quarter—in some cases more steeply than in the United States. The broad stock indexes for the major industrial countries are down since the beginning of the year, except in Japan, where stock prices, on balance, are about unchanged. High-tech stocks have been hit especially hard.

During the first quarter of 2002, the foreign exchange value of the dollar (measured by a trade-weighted index against the currencies of major industrial countries) appeared to react primarily to shifting market views about the relative strength of the U.S. recovery and its implications for the timing and extent of future monetary tightening. Despite some fluctuations in this period, the dollar stayed fairly close to the more than sixteen-year high reached in January. In the second quarter, however, the dollar trended downward as earlier market enthusiasm about U.S. recovery dimmed. Concerns about profitability, corporate governance, and disclosure at U.S. corporations appeared to dampen the attraction of U.S. securities to investors, as did worries that the United States was particularly vulnerable to

the consequences of global geopolitical developments. With U.S. investments perceived as becoming less attractive, the financing requirements of a large and growing U.S. current account deficit also seemed to emerge as a more prominent negative factor. The dollar has lost more than 9 percent against the major currencies since the end of March and is down, on balance, more than 8 percent so far in 2002. In contrast, the dollar has gained about 2 percent this year, on a weighted-average basis, against the currencies of our other important trading partners.

The dollar's exchange rate against the Japanese yen was quite volatile in the first half and, on balance, the dollar has fallen more than 10 percent since the beginning of the year. Although Japan's domestic economy continued to struggle with deflation and severe structural problems, including mounting bad loans in the financial sector and growing bankruptcies, some indicators (including strong reported first-quarter GDP, a firming of industrial production, and a somewhat better reading on business sentiment in the BOJ's second-quarter Tankan survey) suggested that a cyclical recovery has begun. The yen's rise occurred despite downgradings of Japan's government debt by leading rating services in April and May and several episodes of intervention sales of yen in foreign exchange markets by Japanese authorities in May and June. Japanese stock prices, which had fallen to eighteen-year lows in early February, turned up later as economic prospects became less gloomy. At midyear, the TOPIX index was about where it was at the start of the calendar year.

After declining in the final quarter of 2001, euro-area GDP appears to have increased in the first half, though at only a modest rate. Exports firmed and inventory de-stocking appeared to be winding

down, but consumption remained weak. The pace of activity varied across countries, with growth in Germany—the euro area’s largest economy—lagging behind. Despite lackluster area-wide growth, concerns about inflation became increasingly prominent. For most of the first half, euro-area headline inflation persisted at or above the ECB’s 2 percent target limit, partly on higher energy and food price inflation; even excluding the effects of those two components, inflation picked up somewhat during the period. Inflation concerns also were fanned by difficult labor market negotiations this spring, but the strength of the euro may blunt inflationary pressures to some extent. The new euro notes and coins were introduced with no noticeable difficulties at the beginning of the year, but the euro drifted down against the dollar for several weeks thereafter. Since then, however, the euro has reversed direction and moved steadily higher. On balance, the dollar has lost nearly 11 percent against the euro so far in 2002.

The United Kingdom seemed to weather last year’s slump better than most industrial countries, as strength in consumption counteracted weakness in investment and net exports, though growth did weaken in the last quarter of 2001 and into the first quarter of 2002. Notable increases in industrial production and continued strength in the service sector indicate that growth picked up in the second quarter. Household borrowing has increased briskly, supported by rapid increases in housing prices, and unemployment rates remain near record lows. At the same time, retail price inflation has remained below the Bank of England’s 2½ percent target. Sterling has fallen nearly 5 percent against the euro since the beginning of the year, while it has gained more than 6 percent against the dollar. Elsewhere in Europe,

the exchange value of the Swiss franc has been driven up by flows into Swiss assets prompted in part by uncertainties about global political developments. The Swiss National Bank eased its official rates in May to counteract this pressure and provide support for the Swiss economy.

Economic recovery appears to be well under way in Canada. Real GDP increased 6 percent at an annual rate in the first quarter, and other indicators point to continued strong performance in the second quarter. Canadian exports—particularly automotive exports—benefited early in the year from the firming of U.S. demand, but the expansion has become more widespread, and employment growth has been strong. Although headline consumer price inflation has remained in the bottom half of the Bank of Canada’s target range of 1 percent to 3 percent, core inflation has crept up this year. In April, the Bank of Canada increased its overnight rate 25 basis points, citing stronger-than-expected growth in both the United States and Canada, and it increased that rate again by the same amount in June. The Canadian dollar, which had been at a historically low level against the U.S. dollar in January, moved up quite steeply in the second quarter and has gained about 5 percent for the year so far.

The Mexican economy was hit hard by the global slump in 2001 and especially by the weaker performance of the U.S. economy. Mexican exports stabilized early this year as U.S. activity picked up, and other indicators also now suggest that the Mexican economy is beginning to recover. In February, despite the weak level of activity at the time, the Bank of Mexico tightened monetary policy to keep inflation on track to meet its 4½ percent target for 2002, and the Mexican peso moved up a

bit against the dollar during February and March. In April, with inflation apparently under control, the central bank eased policy, and since then the peso has moved down substantially. Against the dollar, the decline since the beginning of the year has amounted to almost 7 percent. After rising through April, Mexican share prices also fell sharply, leaving them at midyear about unchanged from their end-2001 levels.

Financial and economic conditions deteriorated significantly in Argentina this year. The Argentine peso was devalued in January and then allowed to float in early February; since then, it has lost more than 70 percent of its value versus the dollar. The peso's fall severely strained balance sheets of Argentine issuers of dollar-based obligations. Various stop-gap measures intended to restrict withdrawals from bank accounts and to force conversion of dollar-denominated loans and deposits into peso-denominated form put banks and depositors under further stress. Meanwhile, economic activity has continued to plummet, and the government has struggled to gain support for reforms that would address chronic fiscal imbalances. Since late 2001, the government has been servicing its obligations only to its multilateral creditors, and spreads on Argentina's international debt have soared to more than 65 percentage points.

In recent months financial markets elsewhere in the region have become

more volatile. Brazilian markets have been roiled by political uncertainties related to national elections coming in the fall. Attention has focused on vulnerabilities associated with Brazil's large outstanding stock of debt, much of which is short-term. Since April, the value of the *real* against the dollar has fallen nearly 20 percent, and Brazilian spreads have widened substantially. Several other South American countries, including Uruguay and Venezuela, also have been beset by growing financial and economic problems.

Asian economies that rely importantly on exports of computers and semiconductors (Korea, Singapore, Malaysia, and Taiwan) have grown quite vigorously so far this year, a buoyancy reflecting in part the recent turnaround of conditions in the technology sector and stronger U.S. growth. The currencies of several countries of this group have moved up against the dollar. In Korea, the expansion has been more broad-based, as domestic demand was fairly resilient during the recent global downturn and has remained firm. China, which is less dependent on technology exports, has continued to record strong growth as well. Other countries in the region also have started to recover from steep slowdowns or contractions in 2001, although Hong Kong has continued to be troubled by the collapse of property prices. Most stock markets in the region have recorded gains so far this year. ■